AVIATION

The Oldest American Aeronautical Magazine

SEPTEMBER 13, 1926 Issued Weekly PRICE 15 CENTS

Templehofer Field, Berlin—Start of Night Flight to Moscow.

VOLUME XXI NUMBER 11

SPECIAL FEATURES

S.A.E. HOLDS TWO DAY AERONAUTIC MEETING

A FLYING TOUR OF EUROPE

NATIONAL AIR RACES START IN PHILADELPHIA

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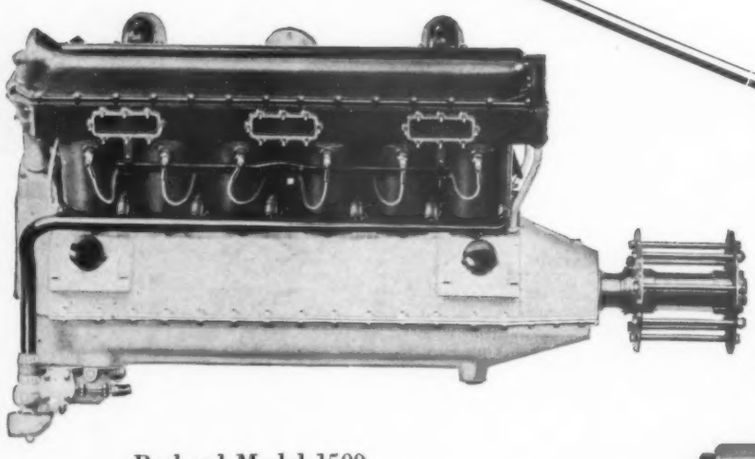

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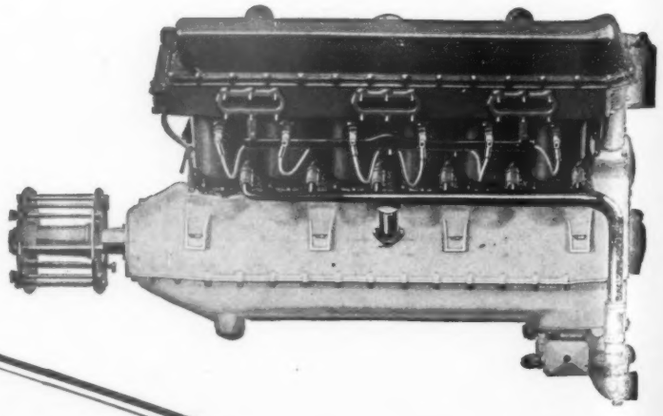

ASK
THE MAN
WHO OWNS ONE

SEPTEMBER 13, 1926

AVIATION

VOL. XXI. NO. 11

Published every Monday

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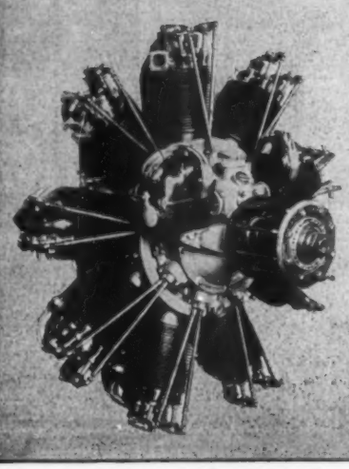

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WRIGHT

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70,000 Miles Without Overhaul?

AUTOMOBILE AND airplane engines embody the same principles of design and operation. In operation the automobile engine is subjected to strains due to gear shifting, letting in the clutch, hill climbing in high gear, chassis torsional strains and drive shocks due to bumpy roads. The airplane engine runs under much better conditions in these respects but, on the whole, the automobile engine is much more reliable and needs less overhauling per mile or per revolution than the airplane engine. The reasons are twofold. First, that the airplane engine is very much lighter per horsepower and second that, during most of the running, an automibile engine is only required to produce a small proportion of its horsepower. The latter factor is probably the most important as far as reliability is concerned. Stock car endurance records on racing tracks show that there are comparatively few standard cars which can maintain their maximum speed during a twenty-four hour race without engine trouble.

Heavy weight does not necessarily mean strength. In the reciprocating parts, at least, it may even weaken the engine. Good metal does not fail through fatigue unless it is stressed to very nearly its breaking point. The aeronautical engine designer has achieved his light weight largely through designing so that all parts are equally stressed in proportion to their strength. Like the one horse shay or a well designed wing, every part of an airplane engine should theoretically break at the same time. It has been the ability to approach this condition which has helped lighten the airplane engine.

In aero engine design, no matter how perfect, there is little safety factor at maximum horsepower, and, although the modern airplane engine gives remarkable results in not breaking down at full power running it would give still more impressive results if plane designers decided to use only a small proportion of the maximum power for normal flying.

Comparisons between automobiles and airplanes are perhaps more amusing than valuable but the potential possibilities of an airplane engine which was as reliable as an automobile engine are certainly interesting and suggestive. The airplane can travel one mile for every 1,000 revolutions of the engine. The normal automobile takes 3,500 revolutions of the engine to cover the same distance. Yet a good automobile will run 20,000 miles without a thorough overhauling. If the airplane engine came up to the same standards of reliability as the automobile engine it could be flown 70,000 miles without overhaul and its total life would be two or three hundred thousand miles.

The comparison is perhaps not entirely fair due to the fact that automobile engines turn nearly twice as fast at their maximum power output but an airplane which only used a small proportion of its maximum power would undoubtedly achieve an amazing mileage.

New Power Standards.

IN JUDGING the efficiency of an air transport plane it is very hard not to base the calculations on speed and on the pounds of useful load carried per horse power. This seems to be the logical formula and has become inbedded in people's minds. Actually, however, this formula is becoming antiquated and a more complicated calculation is needed. That is, a formula which will indicate the proportion of total power needed to carry the useful load at a given speed. In short, in the old days, practically the full power of the engine was required to maintain flight and it was fair to use the total power of the engine as the basis on which to judge the efficiency of the plane. The constant lightening of engines has changed this situation and has made possible a plane which will fly normally on only a small proportion of its maximum horsepower.

It is stated that the latest geared air-cooled radial engine built in this country develops over 500 hp. for a weight of 750 lb. With such an engine, there are two possible lines of development. One is a great increase of the useful load carried per horsepower and the other is the designing of a machine which will not carry a larger load per total horsepower than the planes fitted with heavier engines but which is designed to fly at only a small proportion of its maximum horsepower. The modern tendency in Europe seems to be in this direction. The 500 hp. Farman, for example, has seats for only eight passengers while the old D.H.54 although fitted with a Napier Lion engine of only 450 hp. carried 10 passengers.

Statistically this would not seem to be progress but when other factors are considered the advantages are very great. Reserve power means speed range and, therefore, safety against stalling. It means ability to take off and climb quickly and high. It means ability to maintain schedule even against a head wind. But, above all, it means longer life and greater reliability for the engine. To what extent this improvement is reasonable in commercial airplanes depends very largely upon the type of service in which the plane and engine are being employed.

In figuring the excellence of a pleasure automobile we do not calculate the number of passengers carried per horsepower but rather the reserve power which the car can put into 'performance'. The modern light weight aircraft engine which makes reserve power available without great additions of dead weight makes the automobile standard applicable to airplanes. From the point of view of safety and even of economy the operator of aircraft must figure on a load and speed schedule which will allow an ample reserve of power. There is no use in reserve power if the operator figures on a load and speed schedule which calls for the maximum power output of the engine under the normal operating schedule. The new tendency made possible by light weight engines must be realized and taken advantage of by aircraft operators.

A Flying Tour of Europe

By LESTER D. GARDNER

THE RAPIDLY expanding air transport lines of Europe have been the subject of innumerble articles and studies during the last four years. Much has been written that has been the result of only superficial observation and has resulted in creating a very incorrect impression in the United States. The public which has been led to believe that America was backward in this field has looked at the aviation people with a spirit of impatience and condescention. Returning travellers from abroad have told of the ease and comfort with which they have made air trips from capital to capital and have asked why these conveniences were not available here, in a country which has always led in all other forms of transportation. It was with this condition in mind that an air tour of Europe was made over practically all the main foreign air lines.

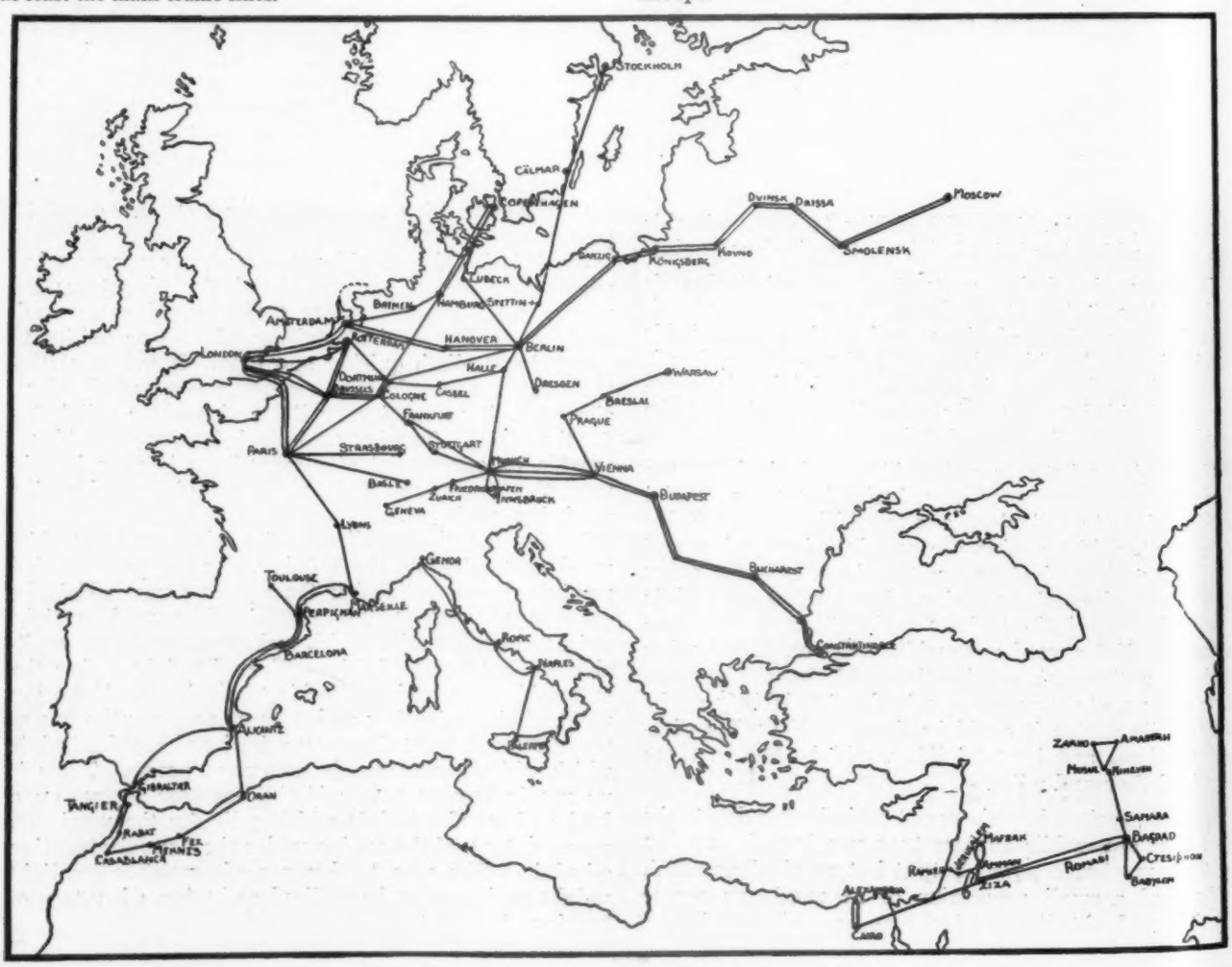
Courteous Invitations

Exceptional facilities for the study of all phases of air transport in Europe were available. The Imperial Airways, the Dutch K.L.M. Company, The Deutsche Luft Hansa, the Latecoere aerial lines, the Farman Company, the Air Union, the C.I.D.N.A., as well as the air transport companies in Switzerland, Poland, Czechoslovakia, Denmark, Sweden, Italy and Hungary had all extended courteous invitations to fly over their routes and such an opportunity is not to be passed by without an exceptional effort being made to fly over at least the main traffic lines.

In addition to the above, the British Air Ministry and the Royal Air Force had tentatively given assurance that if conditions were favorable they would provide an opportunity for the inspection of the air route from Cairo to Bagdad over which the Imperial Airways will operate a service next year. As this territory has not as yet been opened to the general public to fly over and as it traverses the most historical and romantic countries on the globe, the exceptional extent of the opportunities may be realized.

Paris to London Via Imperial Airways

With such a prospect ahead, a start was made during the latter part of March and by April, the air voyage which was to continue almost steadily for four months was begun by a trip from London to Paris on a ten passenger three-engined Handley Page. The terminal airports of this route, Croydon near London and Le Bourget near Paris are of course the most interesting flying fields in Europe. Here may be seen aircraft of all air transport types departing and arriving throughout the whole day. Every facility and accessory used in the operation of air traffic is used to expedite and safeguard the aircraft of the several different companies that use these fields as a hub for the radiating lines that extend throughout Europe.



Air routes covered by the European Air Tour of L. D. Gardner

At a later time a fuller account will be given of the lines individually and also a closer study of the airports, but in this general summary only the most obvious and essential points will be mentioned. Much could be written about the beauty and scenic attractions of the various trips that were made but these too must wait a more appropriate time. The significant and outstanding thing to be noted about all the cross-channel air routes is that the competing rail and steamer lines have two great disadvantages other than that of speed. One is that the crossing is often rough and its fame in this particular is well established, and the other is that the night trip must be broken in the middle so that sleeper accomodation is not available. The result is that travellers have to spend a whole day in the Paris-London journey or have a whole night in a broken rail and sea ride. This makes a three hour trip by air seem a great saving of time as well as an opportunity to avoid the unpleasant features of the other routes. Aside from this, these two cities are the natural starting and terminal points of almost all continental travel. The traffic is therefore made up largely of tourists, who, with the ordinary business man, give these lines the largest volume of passengers by air of any lines in Europe. The English countryside that is flown over is some of the most beautiful in the world while the chalk cliffs that extend as far as the eye can reach along the south coast of England from Dover and Folkstone give the arriving or departing traveller a view that he never forgets. The French provinces that are flown over from Calais, after a half hour crossing, are completely different from the English air views. While no cities of importance are seen, the land and the houses are so characteristic that they give a tourist who has never seen France from the air a new impression of the thrift and capabilities of the French peasant.

Paris-London Via Air Union

Crossing in the other direction the Air Union uses Farman Goliath two-engined planes. These reliable old types have made air transport history. They have flown this route steadily for five years and share with the Imperial Airways the cross-channel traffic. Connections are made at Paris with the Air Union line southward to Lyons and Marseilles while the Imperial Airways flies regularly to Basle, Switzerland.

This latter line is of the greatest interest from a historical standpoint as it passes over the southern part of the battlefield areas. Chaumont and Belfort are seen from the air, as well as a distant sweep of the Alps, before reaching the remarkably prosperous and clean tourists' haven, Basle, from which all the Swiss mountain and lake districts can easily be reached. This connection from London and Paris affords the traveller a very convenient and time saving means of reaching the playground of Europe.

London to Cologne

Starting from Croydon, The Imperial Airways also operates a line to Cologne by way of Brussels. This is one of the most successful air routes of Europe, as it taps the radiating lines of Belgium and Germany. Cologne is one of the natural aerial hubs of central Europe and traffic for London from the enormously productive Ruhr district is routed through Cologne. From a scenic standpoint, few trips can compare to it. After crossing the Channel the beautiful coast of Belgium is followed and almost immediately the whole battlefield region of the early war period is crossed. Dixmude, Ypres, Courtrai are seen before Brussels, the miniature Paris, is reached. Here the air traveller sees a city to the best advantage, as its contour gives a very picturesque impression from the air. The airport with the terminal hangars of the Belgium Sabena Air Transport Company, the military hangars and aircraft manufacturing shop are an impressive example of the advantages of permanent construction at airdromes.

Leaving Brussels, the route to Cologne passes Louvain and the battle field territory of the earliest days of the War. Arriving at Cologne, the most modern type of an air terminal is to be seen in operation. The office building is new and contains the various offices of managing staffs as well as a thoroughly modern restaurant. In front of this building is a concrete apron where all airplanes take on and discharge their passengers. As soon as this is done the airplane either

Le Bourget Airport, the airport of Paris

leaves for its destination or taxies to the hangar to be serviced. No work is done on any plane in sight of any passenger, thus avoiding giving the impression that mechanics are repairing the machine when they are only servicing it.

The other lines that radiate from London are the Imperial Airways and K.L.M. service to Holland. The Imperial Airways stops at Ostend on some of its trips, thus giving to the pleasure seeking visitors at this Belgium seaside resort an opportunity of reaching London in two hours, a trip that would otherwise take ten or twelve. Handley Page twin-engined planes are used by this company while the K.L.M. has standardised on Fokker F-7 single engined monoplanes. Both lines follow the same general route as far as Rotterdam where the K.L.M. has one of the model air ports of Europe. The views from the air on this trip are unique as there is no other country that has the canals that distinguish Holland. As the air tourist flies over the Dutch fields, the rectangular plots surrounded with ditches show what can be accomplished by intensive cultivation. At Rotterdam, the airport of Waalhaven gives every indication of native orderliness and cleanliness. Here will be found one of the typically succesful airdromes of Europe. While the traffic is limited the facilities are as complete as at the larger terminals. Nearby is The Hague with its famous beach of Scheveningen which lures many of those who visit the land of wooden shoes, tulips and canals. At Amsterdam, where air lines from the West and South join with those from England, the airport of Sciphol is another busy junction point. It is at present undergoing a rebuilding period but when the new plans are carried out it will also be one of the show places on the air lines of the continent.

Amsterdam to Copenhagen

One of the most used routes in northern Europe is between Amsterdam and Copenhagen and it is flown by two air transport companies, the K.L.M. and the Deutsche Luft Hansa. The former uses Fokker single engined planes while the latter flies with three engined Junkers. This is another of those fortunate routes, when the competition is considered, as the trains not only have to take a roundabout trip to secure the snortest ferry crossing, but the distances are greatly shortened by air line. The short extension across the channel to Malmo from Copenhagen gives a direct connection with the train for Stockholm. The air views are a varying combination of sea, rivers, bays and farmland with the two large cities of Hamburg and Bremen, en route. Such a service has possibilities for development that make it one of the ideal air lines in the world, for it not only has large cities at its terminals and all along its route, but it has water barriers that it can cross easily with land planes and connections may be had with night service at the terminals so that a wide field of traffic is available.

With Luft Hansa to Berlin

From Amsterdam the direct line of the Deutsche Luft Hansa is operated to Berlin. This is truly the main trunk line of the northern air services of the continent. It links both English and French lines with all the network of German, Russian and Polish air routes. Since the new restrictions that prevented German aircraft flying over French territory have been removed, Amsterdam has lost some of its traffic, owing to more direct services from France via Cologne but the tourists trade that wishes to visit Belgium and Holland will continue to travel via the Dutch metropolis en route to Germany. The service to Berlin is by the way of Hanover and three-engined Junkers planes are used on the line.

There is also another line operated by the Luft Hansa from Amsterdam south to Cologne which connects with all the routes of Southern Europe as well as affording the Ruhr district another service for its salesmen and goods. This trip follows the Rhine from the frontier of Holland to Cologne, with a stop at Dusseldorf. Single engined Junkers are used as the traffic as yet does not require larger planes.

Templehofer Field—The Modern Airport

Arriving at Templehofer Field at Berlin is one of the most interesting experiences of any air trip in Europe, as here is the most conveniently located airport in any city on the continent. It was the old drill ground of pre-war Berlin and has been transformed into as modern an airport as exists today, anywhere. It, of course had the great advantage of starting with the years of experience at other fields so that it has avoided the many mistakes of older airports, the new construction makes it look a most efficient and typically German air center. The facilities are so arranged that passengers leaving Berlin have only a short ride from their hotel and there is only a short wait before the planes take the air for almost every part of Europe. Here, lines radiate to the north to Copenhagen via Lubeck, Flensburg and Kiel by way of Hamburg, and to the Stockholm seaplane line by way of Stettin. The north shore of Germany also may be reached by a connection at Stettin. Then to the East a line is operated to Danzig and Konigsburg that connects with the Deruluft airline that flies to Moscow. Southward, the network extends in almost every direction, like the ribs of a fan. Breslau and Dresden, Leipzig and Halle, Cologne and Essen all have their radiating line and each has extensions that lead to other cities. The German airlines, all under one management and all standardised as to service and equipment are the nearest approach to a system that exists today.

(To be continued)

The new Handley Page airliners for Imperial Airways lined up for inspection at the London airport, Croydon. The three-engine (dry) airliner, the City of New York, is the fourth in line from the right.

ANALYSIS OF LESTER GARDNER'S AIR TOUR

In the following table the distances in kilometers and miles are from place to place, no allowance being made for changed routes on account of weather, circling for take offs or landings, detours or other causes which add to the distance of flights.. With these taken into account the 19726 miles becomes approximately 21,000 miles and the 32317 kilometers is lengthened to 33,600 km. The time is the actual time from take off to landing, no allowance being made for stops. The train times are by the shortest routes and fastest expresses although in some cases the distance is longer or shorter by train. The numbers in brackets after the names of the airplanes indicate the number of engines used. On 53 days flights were made. Seventy planes and one airship were used of 25 different types. One hundred and ten engines furnished the power without an engine failure of any kind during the 234 hr. 49 min. in the air. The air line abbreviations follow: Imperial Airways, I.A.; Air Union, A.U.; Deutsche Luft Hansa, L. H.; Royal Dutch Airlines, K.L.M.; AD Astra, A.A.; Dornier Works, Dornier; Societa Ananima Navigazione Aerea (Italian), S.A.N.A.; U.S. Air Corps, U.S.; Royal Air Force, R.A.F.; Italian Air Force, I. A. F.; Maggar Air line, M. L.; Co. Internationale de Navigation Aerienne, C.I.D.N.A.; De Haviland, D.H.; Lignes Aeriennes Latecoere, Latecoere; Societe Generale de Transport Aerien, Farman; Danish Airlines, A. B. A.

Date			Line	km.	Total-km.	Mile	Total Miles	Trip Time	Total Time	Airplanes	R. R. Time	Total R. R. Time
March												
30.	Croydon-Croydon		I.A.	17	17	10	10	0 15	0 15	Handley Page (2)	—	
Apri												
1.	London-Paris		I.A.	362	379	225	235	4 20	4 35	Handley Page (3)	7.—	7.—
11.	Paris-London		A.U.	362	741	225	460	2 32	7 07	Farman Goliath (2)	7.—	14.—
13.	London-Cologne		I.A.	507	1248	315	775	3 39	10 46	Handley Page (2)	14.30	28.30
14.	A'dam-Paris		L.H.	460	1708	278	1053	3 05	13 51	Farman Gol. (2)	9.—	37.30
16.	Paris-Rotterdam		K.L.M.	394	2102	246	1299	2 05	15 56	Kolhoven (3)	8.—	45.30
20.	A'dam-Berlin		L.H.	585	2687	366	1665	3 32	19 28	Junkers (3)	12.—	57.30
22.	Berlin-Copenhagen		L.H.	477	3164	298	1963	3 29	22 57	Junkers (3)	11.—	68.30
23.	Copenhagen-A'dam		K.L.M.	682	3846	426	2389	5 27	28 24	Fokker (1)	20.—	88.30
23.	A'dam-London		I.A.	356	4202	223	2612	2 44	31 08	Handley Page (2)	11.—	99.30
24.	London-Rotterdam		K.L.M.	325	4527	203	2815	2 31	33 39	Fokker (1)	10.—	139.—
24.	Rotterdam-Dortmund		L.H.	215	4742	134	2949	2 22	36 01	Junkers (1)	6.—	115.30
24.	Rotterdam-Rotterdam		"	32	4774	20	2969	0 20	36 21	Fokker (1)	—	—
24.	Dortmund-Halle		"	317	5091	198	3167	2 41	37 02	Junkers (1)	9.—	124.30
24.	Halle-Berlin		"	148	5239	93	3260	1 17	40 19	Junkers (1)	2.—	126.30
27.	Berlin-Munich		"	526	5765	333	3592	4 02	44 21	Fokker (1)	12.30	139.—
28.	Munich-Innsbruck		"	160	5925	100	3692	1 05	45 26	Fokker (1)	4.—	143.—
28.	Innsbruck-Munich		"	160	6085	100	3792	1 20	46 46	Fokker (1)	4.—	147.—
29.	Munich-Stuttgart		"	192	6277	120	3912	1 33	48 19	Junkers (1)	5.30	152.30
29.	Stuttgart-Frankfurt		"	166	6443	104	4016	0 57	49 16	Junkers (1)	4.—	156.30
29.	Frankfurt-Cologne		"	149	6592	93	4109	1 10	50 26	Junkers (1)	4.—	160.30
30.	Cologne-Munich		"	507	7099	318	4427	3 59	54 25	Junkers (1)	12.—	172.30
30.	Munich-Vienna		"	368	7467	230	4657	3 —	57 25	Junkers (3)	10.—	182.30
May												
1.	Vienna-Munich		"	368	7835	230	4887	2 31	59 56	Junkers (3)	10.—	192.30
1.	Munich-Zürich		"	242	8077	151	5038	1 50	61 46	Junkers (3)	13.—	205.30
5.	Geneva-Zürich		A.A.	236	8313	148	5186	1 38	63 24	Junkers (1)	5.30	211.—
5.	Friedrichshafen		Dornier	24	8337	15	5201	0 10	63 34	Dornier Dolphin (1)	—	—
6.	Friedrichshafen		"	72	8409	45	5246	0 30	64 04	Dorn-Komet (1)	—	—
11.	Genoa-Ostia (Rome)		S.A.N.A.	430	8839	270	5516	2 13	66 17	Dorn. Wal (2)	10.—	221.—
12.	Rome-Frascati-Rome		U.S.	72	8911	45	5561	0 30	66 42	Vought (1)	—	—
14.	Ostia-Naples		S.A.N.A.	213	9124	133	5694	1 30	67 17	Dorn. Wal (2)	4.30	225.30
20.	Helibpolis-Ziza	*	R.A.F.	535	9659	334	6028	6 10	73 27	Vickers Vimy (2)	27.—	252.30
21.	Ziza-Bagdad	*	"	851	10510	532	6560	6 12	79 39	Vickers Vimy (2)	43.—	295.30
25.	Bagdad-Mossul	*	"	384	10894	240	6800	3 08	82 47	D H 9 A (1)	19.—	314.30
26.	Mossul-Mossul	*	"	320	11214	200	7000	2 30	85 17	Bristol (1)	—	—
26.	Mossul-Babylon-Bagd.	*	"	576	11790	360	7360	3 36	88 53	D H 9 A (1)	29.—	343.30
27.	Bagdad-Ramaidi	*	"	111	11901	63	7423	1 —	89 53	Vickers Vernon (2)	6.—	349.30
28.	Ramaidi-Ziza	*	"	751	12659	468	7891	5 58	95 51	Vickers Vernon (2)	38.—	387.30
28.	Ziza-Ramleh	*	"	368	13020	230	8121	3 20	99 11	D H 9 A (1)	18.—	405.30
June												
2.	Cairo-Alexandr.-Aboukir	*	"	224	13244	140	8261	1 50	101 01	Bristol (1)	11.—	416.30
2.	Aboukir-Memphis-Cairo	*	"	256	13500	160	8421	1 30	102 31	Bristol (1)	13.—	429.30
8.	Palermo-Naples		S.A.N.A.	271	13771	170	8591	2 23	104 54	Dornier Wal (2)	18.—	447.30
12.	Rome-Ostia-Rome		I.A.F.	130	13901	81	8672	1 13	106 07	N 2 Airship	—	—
14.	Munich-Vienna		L.H.	368	14269	230	8902	2 40	108 47	Junkers (3)	10.—	457.30
15.	Vienna-Budapest		M.L.	224	14493	140	9042	1 06	109 53	Fokker (1)	6.30	464.—
16.	Budapest-Belgrade		S.I.D.N.A.	310	14803	194	9236	1 39	111 32	Bleriot Spad (1)	9.30	473.30
17.	Belgrade-Bucharest		"	520	15323	325	9561	3 20	114 52	Bleriot Spad (1)	9.—	482.30
18.	Bucharest-Constantinople		"	325	15848	330	9891	3 41	118 33	Bleriot Spad (1)	17.—	499.30
21.	Constantinople-Budapest		"	290	17138	806	10697	8 49	127 22	Bleriot Spad (1)	29.—	528.30
22.	Budapest-Vienna		"	224	17362	140	10857	1 24	128 46	Bleriot Spad (1)	6.30	535.—
22.	Vienna-Prague		"	278	17640	174	11011	1 36	130 22	Potez (1)	6.—	541.—
22.	Prague-Warsaw		"	528	18168	330	11341	3 16	133 38	Bleriot Spad (1)	17.—	558.—
23.	Warsaw-Chotzen		"	750	18918	469	11810	5 08	138 46	Potez (1)	15.—	573.—
24.	Dresden-Berlin		L.H.	161	19079	101	11911	1 20	140 06	Junkers (1)	3.—	576.—
26.	Berlin-Konigsberg		"	648	19727	405	12316	4 32	144 38	Junkers (3)	12.—	588.—
28.	Konigsberg-Moscow		D.L.	1185	20912	740	13056	827	153 05	Fokker (1)	42.—	630.—
30.	Moscow-Berlin		D.L.	1827	22739	1142	13796	11 38	164 43	Junkers (3) Fokker (1)	54.—	684.—
July												
1.	Berlin-London		L.H.I.A.	941	23685	589	14385	6 10	170 53	Junkers (3) H-P (2)	21.—	705.—
2.	Hendon-Wembley		D.H.School	32	23712	20	14405	0 30	171 23	D H Moth (1)	—	—
6.	Toulouse-Casablanca		Late coere	1850	25562	1155	15560	12 8	183 31	Breguet 14 (1)	72.—	777.—
8.	Casablanca-Oran		"	755	26317	472	16032	5 38	189 9	"	29.30	806.30
10.	Oran-Alicante		"	300	26617	188	16220	2 45	191 54	"	12.—	818.30
10.	Alicanta-Perpignan		"	800	27417	500	16720	5 29	197 23	"	20.—	838.30
11.	Perpignan-Marseilles		"	275	27692	172	16892	1 57	199 20	"	6.30	843.—
12.	Marseilles-Paris		A.U.	740	28432	462	17354	3 0	202 20	Berline Spad (1)	14.—	857.—
13.	Paris-Strasbourg		C.I.D.N.A.	388	28820	242	17596	5 23	207 43	Farman (2)	7.—	864.—
14.	Basle-Paris		I.A.	463	29233	258	17854	3 6	210 49	H-P (2)	7.—	871.—
17.	Paris-Cologne		Farman	400	29633	250	18104	3 0	213 49	Junkers (3)	7.—	878.—
17.	Cologne-Copenhagen		A.B.A.	638	30271	399	18503	4 57	218 46	Fokker (1)	21.—	899.—
19.	Stockholm-Stettin		L.H.	689	30960	439	18942	5 38	224 24	Dornier Wal (2)	11.—	910.—
19.	Stettin-Berlin		L.H.	130	31190	81	19023	1 20	225 44	L.F.G. (1)	2.—	912.—
20.	Berlin-Cologne		L.P.	620	31810	388	19411	4 07	229 51	Farman (1)	11.—	923.—
20.	Cologne-London		I.A.	507	32317	315	19726	4 58	234 49	H.P. (2)	15.—	938.—

The Start of The National Air Races

The First Two Days of Air Racing in Philadelphia. Two-hundred and Fifteen Entrants in the Nineteen Events.

EARLY IN the afternoon of Saturday, Sept. 4, with a thick overcast sky, which, however, later proved ideal for air racing, the National Air Races started at Model Farms Feld, Philadelphia, just Southwest of the Sesqui- Centennial Exposition grounds. It was estimated that about 3000 attended to witness the first afternoon of the week of air racing which was to follow. To many, perhaps, the great attraction was that of Miss Gloria Swanson, the noted film star, who had consented to be present at the opening ceremonies. However, with all due respect for Miss Swanson, to the aeronautical community the presence of Glenn H. Curtiss, the great pioneer of aviation; Senator Hiram Bingham; Assistant Secretaries for aviation Davison, Warner and MacCracken of the War, Navy and Commerce Departments, respectively; Major Gen. Mason M. Patrick, chief of the Army Air Corps; and Rear Admiral William A. Moffett, chief of the Bureau of Aeronautics, undoubtedly, also provided an attraction.

The Official Opening

Miss Swanson officially opened the Races, assisted by Mayor Kendrick of Philadelphia, with the pull of a landyard which set off a cannon with a deafening roar. The entry list for the nineteen race events of the week included no less than 215 entrants. In addition to these events, there were numerous other contests including many parachute jumps. While the opening ceremonies were going on, the spectators were greatly attracted by a very fine display of formation flying staged by three Army fliers of tthe First Group from Selfridge Field, Flying Curtiss P-1 pursuit planes.

Aero Club of Penn. Trophy

The first event was the first elimination race for the Aero Club of Pennsylvania Trophy. This was a free-for-all race for two or more place low-powered airplanes over a course of 60 miles, five times around the triangular twelve mile course from the Model Farms Field pilon, across the Delaware River to Paulsboro, N. J., then to Woodbury, N. J. and back to the field. This race was the first of two eliminations and a final for the Trophy. It was a civilian race for planes with an engine piston desplacement of 510 cu. in. or less and planes had to carry a total load of 340 lb. including the pilot. The race was won by Basil Rowe flying plane No. 12, a Thomas Morse S4E, with an Aeromarine T.B. engine, which, it will be remembered, he flew in last year's races at New York. His speed for the race was 109.59 m.p.h. and he was followed by Victor Dallin, of Philadelphia, flying a Waco 9 with Curtiss OX-5 engine, with a speed of 105.62 m.p.h. and Casey Jones

A general view of the enclosures and some of the planes at Model Farms Field, Philadelphia, Pa.

flying General Gilmore's Thomas Morse with Curtiss OX-5 engine, with a speed of 99.40 m.p.h.,—quite a slow speed for

Results of Event No. 1

Casey Jones in an air race.

The complete results of this race were as follows:

Pilot	Plane	Engine	Speed m.p.h.
Basil Rowe	Thomas Morse S4E	Aeromarine T.B.	109.59
Victor Dallin	Waco 9	Curtiss OX-5	105.62
Casey Jones	Thomas Morse	Curtiss OX-5	99.40
Robert P. Hewitt	Waco 9	Curtiss OX-5	96.30
Walter Beach	Travel Air	Curtiss OX-5	93.51
J. Ben Faulkner	Oriowing No. 2	Curtiss OX-5	88.71
James G. Ray	Oriowing No. 1	Curtiss OX-5	81.66

Basil Rowe was the first to leave with James G. Ray and J. Ben Faulkner next, followed by Victor Dallin in the Waco 9 and Walter Beach in the Travel Air. Robert P. Hewitt

Fred Day Hoyt, of Eureka, Calif., winner of the On-to-the-Sesqui race, with his Travel Air machine.

and Casey Jones were the last to leave. There were prizes for this elimination race and for the second also, in addition to the prize to the prize money for the final race. Thus, the first, second and third men got, respectively, $500, 300 and $150, while all tthe seven contestants got cash prizes for smalled amounts. Three entrants did not race in this event.

Independence Hall Trophy

The second race of the day was for the Independence Hall Trophy, a free-for-all civilian race for two, three or four-seater planes over a distance of 84 miles, being 7 laps of the 12 mile course. The first prize was $1000; second, $600; third, $400 and three other cash prizes. This race was for planes with a total engine displacement of 800 cu. in. or less, carrying 340 lb., the Trophy to become the permanent property of the winner. There were nine contestants, five of the original entrants not racing, and the race was easily won by Casey Jones flying his now well-known Curtiss Oriole with Curtiss C-6 engine and the clipped lower wings. This is the third consequtive year that Casey Jones has won this event, his closest contended being James G. Ray of Pitcairn Aviation, Inc., flying the Sesqui-Wing Arrow also with a Curtiss C-6 engine. This plane, in many respects is not unlike the clipped wing Oriole in that it, too, has lower wings very much smaller than the upper wings.

A Close Competitor for Casey

Jones' speed in the race was no less than 136.11 m.p.h., with Ray doing 127.81 m.p.h. and the third man, Walter Beach, in the Whirlwind engine Travel Air doing 126.02 m.p.h. This indicates a very good speed for the Sesqui-Wing Arrow since it had much less power than the Travel Air, but, of course, Casey Jones is still ahead.

The complete results of Event No. 2 were:

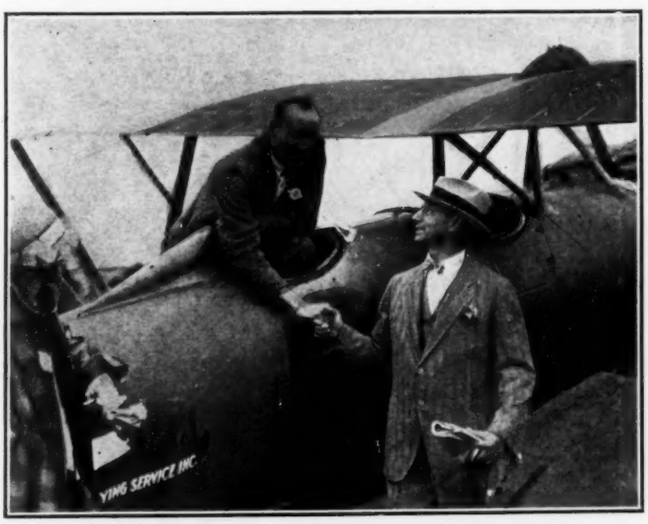
Pilot	Plane	Engine	Speed m.p.h.
C. S. Jones	Curtiss Oriole	Curtiss C-6	136.11
James G. Ray	Sesqui-Wing Arrow	Curtiss C-6	127.81
Walter Beach	Travel Air	Wright J-4	126.02
C. C. Champion, Jr.	Wright-Bellanca WB-2	Wright J-5	121.69
Henry DuPont	Buhl-Verville Airster	Wright J4	117.17
Louis G. Meister	Buhl-Verville Airster	Wright J-4	116.13
A. L. Capperton	Curtiss Lark	Curtiss C-6A	102.42
Basil Rowo	SVA	Aeromarine USD down on lap 6.	——
Thomas Carroll	Vought UO-1	Wright J-5 down on lap 1.	——

Undoubtedly one of the most interesting of the planes in this race was the new Wright Belanca with the Whirlwind engine. It is, in most respects, identical with last year's plane which performed so well. However, the undercarriage of the new machine is different in that the steamline duralumin 'trousers' are absent and, furthermore, there are some minor changes in the cabin arrangement and windows, enabling even better visibility than in the previous machine.

The On-to-the-Sesqui Race

The winner of the On-to-the-Sesqui race, was Fred. Day Hoyt, of Eureka, Calif., who flew from that place, 2558 miles, in 31 hr. flying time. He, thus, received the Sesqui-Centennial Trophy and the first prize of $1,200. He landed at Model Farms Field on Sept. 1, at 6:02 A. M. Second and third places went respectively to Austin Lawrence, of Love Field, Dallas, Tex., and Ross Arnold of the same place. They received, respectively, prizes of $800 and $600. Both got in to Philadelphia on Sept. 2. There were twenty-two entrants in the On-to-the-Sesqui race. Hoyt flew an OX-5 Travel Air while both Lawrence and Arnold came on JN4C planes with OX-5 engines.

Undoubtedly one of the most sporting entrants in the On-to race was that of Jack Laass who set out for Philadelphia in the little Driggs Dart monoplane with Wright Morehouse engine. The fact that his flight necessitated crossing the Allegheny Mountains made the undertaking all the more daring. He arrived in Philadelphia on the morning of Sept. 7 weary and battered after an all-night struggle with the terriffic storm which swept Eastern Pennsylvania.



General William Mitchell, at Model Farms, Field, greeting Casey Jones.

Some anxiety was felt during the few days before the races for the safety of Lloyd Shearman of the Travel Air Manufacturing Co., Wichita, Kans., and George Wies of New York. They left Pittsburgh on Sept. 1 in a Travel Air plane, contesting in the On-to race and were not heard from until, after a long silence, they notified National Air Race officials on the evening of Sept. 3, the eve of the Races, that they had made a successful landing at Moundsville, W. Va., after having lost their way in heavy fog.

The Wright Bellanca brought six persons from Hasbrouck Heights, N. J. making the flight to Model Farms Field in 37 min. The plane was piloted by C. C. Champion and his

passengers were: Miss Helen Roth, J. Russell Brown, R. N. Martindale, Theodore Sorenson and S. A. Froberger. Other arrivals were W. H. McMullen, of the Curtiss Flying Service, in a Curtiss Lark carrying Mrs. Casey Jones and Mrs. Frank Russell. A. F. Caperton, also of the Curtiss Flying Service, arrived in a Curtiss Oriole with his wife, both these two arrivals coming from Garden City.

Parachute Contest

The proceedings of Saturday closed with Special Event B, the National Championship in the free-for-all Parachute contest. This event was open to both military or civilian contestants and continued throughout the week. The object was to demonstrate precision landing with a parachute and each contestant was limited to one jump per day. The champion at the end of the races was to be the one landing closest to a predetermined point on the field. All jumps were made from a minimum altitude of 1500 ft. There were three prizes to be awarded at the end of the week, the first being $250. In addition, there was a prize of $50 daily for the contestant landing the shortest distance from the marker in the daily trials. On Saturday, this prize was won by W. B. Baird who landed 89 ft. from the marker.

The Mulvihill Model Trophy

This closed the races until Monday, Sept. 6, Labor Day, when approximately 7,000 people turned out at Model Farms Field. Undoubtedly the expected arrival of the Los Angeles from Lakehurst, which was scheduled for Monday, attracted many, but the weather conditions proved such a flight to be impossible. Comparatively few spectators had arrived when the model race for the Mulvihill Model Trophy was being run off, this being scheduled for as early as 9:30 A. M. There were twenty-one models entered although one model did not actually appear. Some entrants brought more than one model. The contest was won by Jack Loughner, age 15 years, from Detroit, Mich, with a model which remained in the air for 2 min. 31 2/5 sec. Joseph Lucas was second with a duration of 2 min. 9 2/5 sec. Thus, in spite of the fact that the duration times were far below records set in previous years, the Mulvihill Trophy and $200 went to Loughner, while Lucas won the second prize of $100. There were eight cash prizes in all.

The B.B.T. Trophy

With the exception of a certain amount of demonstration and exhibition flying, activities were at a standstill until 1:50 P. M. when Event No. 4, which was a novelty relay race for the B. B.T. Trophy, presented by the B. B. T. Corporation, manufacturers of aviation lights and beacons. This was for machines with a total engine displacement not to exceed 510 cu. in. and was over a distance of 36 miles, three laps of the 12 mile course. Entries were in teams of three planes each and the race was limited to four teams, red, white, black and yellow.

The teams were:

	Pilot	*Plane*	*Engine*
	Vicor Dallin	Waco 9	OX-5
Red	Jack Thropp	Waco 9	OX-5
	R. P. Hewitt	Waco 9	OX-5

The home pilon at Model Farms Field

A fleet of ten Ryan M-1 planes is now under construction for the Pacific Transportation and Government Mail Service.

A *Valsparred* Thoroughbred!

First in the world to succeed in operating air-transportation lines without subsidy, Ryan Airlines, Incorporated, have recently achieved another triumph. Ryan M-1, their new light-weight monoplane, is attracting widespread attention by its remarkable performance and almost human responsiveness to control.

This new record-maker, powered by a Wright Whirlwind Engine and equally suitable for pleasure or light commercial service, is *Valsparred, of course.*

For Valspar long since demonstrated its supremacy in withstanding sharp climatic changes, air pressure and terrific speeds, as well as all the minor incidents of service—without cracking, peeling, blistering or ever turning white!

VALENTINE'S
VALSPAR
The Varnish That Won't Turn White

	Casey Jones	Thomas Morse	OX-5
White	A. H. Kreider	Waco 9	OX-5
	Basil Rowe	Thomas Morse	OX-5
	A. C. Kerr	Oriowing No. 2	OX-5
Black	H. W. Rufus	Sesqui-Wing	OX-5
	James G. Ray	Oriowing No. 1	OX-5
	Fred Hoyt	Travel Air	OX-5
Yellow	E. P. Lott	Travel Air	OX-5
	Richard Depew	Fairchild CM-1	OX-5

The Winning Team

Casey Jones took off on the first lap and made good time, placing Kreider in the lead on the second lap and giving Rowe, team leader, first place in the final with a time of 25 min. 7 sec. The relay aspect of the race was arranged such that on the completion of the first leg of the race, the pilot landed and his passenger jumped out of the plane and ran to the second machine of his team and tied the colored pennant onto a wing strut, whereupon the second plane took-off; and so on to the third machine.

The second in the race was the team of the Ludington Exhibition Co., flying the red pennant. Hewitt, team leader, came in with a total time of 27 min. 6 sec., while the Travel Air Manufacturing team, yellow, made 31 min. 1 sec. The Pitcairn team, black, was disqualified owing to the first man off, Ray, beating the gun at the start. Thus, the B.B.T. Trophy was won by the Basil L. Rowe team and the cash prize of $500. There were two other cash prizes. This event was very novel in many respects and as much of it was, as it were, performed on the field, the changes, etc. being made before all the spectators, it proved one of the most intresting and exciting of the races.

The National Guard Trophy

The last event of the day was the race for the National Guard Trophy, a closed event for National Guard pilots. This was a real race in every sense of the word since all of the planes were identical except in detail, all being Curtiss Jennies. The entrants were limited to this type of plane with a minimum wing area of 350 sq. ft. and equipped with a direct drive engine having a total cylinder displacement of not more than 720 cu. in. The distance was 84 miles, being seven times around the twelve mile course.

Eleven planes took part. Five were Pennsylvania National Guard, five New York National Guard and the eleventh was piloted by Major D. Tipton, head of the aviation section of the Maryland National Guard. The race was won by Carl W. Rach of the New York National Guard at an average speed of 93.08 m.p.h. On the first lap, he was third around the pilon on the Model Farms Field but after that he caught up Major John S. Owens (Pennsylvania) who had been leading and Lieut. George N. Hyland (Pennsylvania) who had been holding second on the first lap. Thereafter, Rach, due largely to his good piloting and close turns around the pilons, if one is to judge from the manner in which he negotiated the home pilon on each lap, maintained constant lead throughout the race. Carl J. Sack, who was eighth in the first lap, moved up in successive laps to sixth, then fourth and then second, where he stayed throughout the race, close on the tail of Rach, with a speed of 89.63 m.p.h. There was much changing of places during the successive laps among the other planes until finally Leonard F. Long won third place with 87.63 m.p.h. Thus, all the honors went to the New York Team.

Results of Event No. 5.

The complete results of the race, Event No. 5, were as follows:

Pilot	*Plane*	*Speed m.p.h.*
Carl W. Rach (New York)	JN-11	93.08
Carl J. Sack (New York)	JN-4	89.63
Leonard F. Long (New York)	JN-4	87.63
Maj. D. Lipto (Maryland)	JN	85.38
L. G. Brower (New York)	JN-4	85.14
Edwin Weatherdon (New York)	JN-4	84.87
Lieut. George N. Hyland (Penn.)	JN-5	84.71
Lieut. George Logan (Penn.)	JN-5	83.56
Maj. John S. Owens (Penn.)	JN-5	83.11
Lieut. George R. Dickens (Penn.)	JN-5	82.79
Lieut. L. W. Helwig (Penn.)	JN-5	82.13

At the end of the last lap, Rach, believing he had one more lap to go continued around again and Sack to make certain followed him. The others were signaled down from the timers stand.

Thus, the official program for the second day concluded but there was still more activity to be seen. One somewhat novel item in the sphere of aviation was the auctioning of a Martinsyde biplane with Rolls Royce Falcon engine by Pitcairn Aviation, Inc. First, the plane was taken up for a brief demonstration and it was certainly very interesting to see the manner in which the machine climbed. It was very commendable for a plane of its type. It was understood that the company placed a reserve price of $3,500 on the plane.

By this time the great majority of the spectators was leaving, more especially so as heavy black clouds and electrical effects on the horizon prophesied a severe storm. This storm, later, proved so severe as to render Model Farms Field entirely unfit for use the following day with the result that the events scheduled for Sept. 7, were cancelled.

National Air Races Air Mail Service

A special Air Mail service is being maintained between Philadelphia and New York during the National Air Races from Sept. 4 to 11. The object of the service is in order that the National Air Races may be kept in close touch with the night air mail to Chicago and the trans-Continental Air Mail service connecting with the feeder-line routes throughout the country.

The following schedule is in effect daily during the period:

Leave Hadley Field, New Brunswick, N. J., 5.30 a. m., or after arrival of eastbound overnight, but not later than 9 a. m.; arrive Philadelphia in 40 min.

Leave Hadley Field 5 p. m., or after arrival of eastbound transcontinental, but not later than 5:30 p. m.; arrive Philadelphia in 40 min.

Leave Philadelphia 9.45 a. m.; arive Hadley Field, New Brunswick, N. J., 10:25 a. m., connecting westbound transcontinental plane.

Leave Philadelphia 6:30 p. m.; arrive Hadley Field 7.10 p. m., connecting westbound New York-Chicago overnight.

Postage rates per ounce or fraction thereof:

Between Philadelphia and New York, 8 cents.

Between Philadelphia and Cleveland and Chicago, 8 cents by plane leaving 9.45 a. m., 10 cents by plane leaving 6:30 p. m.

Between Philadelphia and points between Chicago and Chevenne, 16 cents by plane leaving 9.45 a. m.

Between Philadelphia and points west of Cheyenne, 24 cents by plane leaving 9.45 a. m.

Where a letter is for dispatch via contract route from Cleveland, Ohio, Chicago, Ill., Cheyenne, Wyo., Salt Lake City, Utah, and Elko, Nev., the rate is 10 cents an ounce or fraction thereof for contract route and 5 cents for each zone of Government-operated route (Philadephia-Chicago, Chicago-Cheyenne, Cheyenne-San Francisco).

New Haven Seaplane Meet

The first seaplane meet to be held on the North Atlantic coast has been definitely scheduled at New Haven, Conn., Saturday, Sept. 25 by the Reserve Officers' Association and the owners of the New Haven Air Terminal, Inc., who have had the arrangements in charge.

The New Haven Air Terminal, on the East shore of the harbor, near Tomlinson Street bridge, has been selected for the events of the meet.

John H. Tweed, who is president of the Reserve Fliers' Association and also of the New Haven Air Terminal, will be in charge of the meet and will act as host to visiting pilots.

It is hoped to have several Navy planes at the meet, as well as civilian fliers from most Eastern cities. The organizers feel that the meet will develop into a yearly event.

The On-to-New Haven race will offer the winning pilot a prize of $100. Many other events have been arranged, the prizes for which will be trophies.

Announcing the

Cole Aircraft Corporation

AND THE

"Cole Sport Commercial"

AIRPLANE

A NEW PRODUCTION AIRPLANE DESIGNED AND BUILT FOR HIGH SPEED COMBINED WITH A QUICK TAKE OFF AND LOW LANDING SPEED.

AN AIRPLANE THAT WILL MEET THE APPROVAL OF THOSE WHO DESIRE FAST TRANSPORTATION AT A LOW INITIAL AND OPERATING COST.

COLE AIRCRAFT CORP.

P. O. Box 2712

CLEVELAND, OHIO.

S.A.E. Holds Two Day Aeronautic Meeting

Aeronautic Banquet Hears Notable Speakers.

THE ANNUAL Aeronautic Meeting of the Society of Automotive Engineers was held in Philadelphia, at the Bellevue-Stratford Hotel, on Sept. 2 and 3, when, during three technical sessions, many papers on aeronautical subjects of vital interest at this time were read by men well suited to discuss their respective topics. The meeting terminated with an inspection trip to the Naval Aircraft Factory where a number of features of great interest were on exhibit.

Undoubtedly the high spot of the two-day meeting was the Aeronautic Banquet in the Ballroom of the Bellevue-Stratford on the evening of Sept. 2. The dinner was very well attended and was full of lively novelties contributed by the Pennsylvania Section of the S.A.E. Among the guests were, Senator Hiram Bingham (R) from Connecticut; the Hon. Trubee F. Davison, Assistant Secretary of War for Aviation; the Hon. Edward P. Warner, Assistant Secretary of the Navy for Aeronautics; and the Hon. William P. MacCracken, Jr., Assistant Secretary of Commerce in charge of the Bureau of Civil Aviation. Others at the guest table were, Brig. Gen. William E. Gilmore, Air Corps; Col. Benjamin Foulois, Air Corps; Dr. George Lewis, of the N.A.C.A.; Wing Comdr. T. G. Hetherington, British Air Attaché in Washington; Frank H. Russell, vice-president of the Curtiss Company; Dr. Burgess, of the Bureau of Standards; Capt. George C. Westervelt, manager of the Naval Aircraft Factory; Admiral H. I. Cone, U.S.N. retired; Maj. Howard F. Wehrle and Godfrey L. Cabot, president of the N.A.A. Grover Loening, president of the Loening Aeronautical Engineering Corp., was toastmaster.

Dr. Lewis on the N.A.C.A.

After the official welcome had been given by Mr. Davidson, representing Mayor Freeland Kendrick of Philadelphia, Dr. Lewis spoke for a few minutes on the work of the National Advisory Committee for Aeronautics and the value of research to aeronautical development. The modesty of Dr. Lewis in discussing the N.A.A. in so impersonal a manner was very apparent to all who knew the tremendous amount of energy which he has put into building up the Committee and coordinating its activities to the extent which has enabled it to be so largely instrumental in placing America so far to the fore in the world of aeronautical research.

Mr. Loening then introduced Senator Bingham as aviation's greatest friend in Congress, a sentiment which was obviously upheld by all those present. Senator Bingham then delivered one of the most inspiring, interesting and instructive speeches ever voiced on the general subject of aviation. He emphasized the important fact that while the last Congress had spent a considerable amount of time on the subject of aviation legislation, both service and civil, aviation had never become a party issue, both sides of the 'aisle' being equally anxious to cooperate to the greatest possible extent in improving the position of aeronautics in the country and encouraging the greatest possible development. Speaking on the recent bills which have been passed by Congress, Senator Bingham emphasized the fact that, while five-year programs had been authorized for both the Army and the Navy air services, naming fixed sums for the carrying out of these programs, the actual appropriation of these monies had not been authorized. He pointed out that authorizing certain expenditures was very different from appropriating the money for such expenditures, a point which many had overlooked. Senator Bingham said that Congress had merely authorized an appropriation and the next step would be to get the Committee of Appropriations to report the appropriation to Congress whereupon the latter would actually appropriate that money. In fact, what Senator Bingham had to say may well be construed as indicative of trouble being experienced in actually getting the necessary money for the carrying out of the five-year programs.

Continuing, a plea for the reliable and careful education of the public to the possibilities and limitations of aviation and a clear understanding of what is necessary to and what may be expected from, the development of commercial aviation, was voiced by Senator Bingham. He emphasized that it was of the greatest importance that the daily newspapers follow carefully the problems of aeronautical development and watch that no unreliable news is printed which may do a colossal amount of harm to development at this stage. The public must be made 'air-wise' and must be told the truth about aviation, both as regards its possibilities and its limitations. There are enthusiasts of aeronautics who mislead the public to believe facts which are not true and then, when aviation fails to live up to the exaggerated claims of these enthusiasts, the

The Hon. Trubee F. Davison
Asst. Sec. of War for Aviation

The Hon. Edward P. Warne
Sec. of the Navy for Aeronautics

The Hon. William P. MacCracken, Jr.
Asst. Sec. of Commerce for Aviation

A PREDICTION REALIZED

The New Curtiss "FALCON"

DURING the past several months, the first group of Curtiss "Falcons" to be delivered to the Army have been undergoing service tests in the hands of Air Corps pilots.

As was foreshadowed when the "Falcon" won first prize in the Observation Competition at McCook Field, this new observation airplane has rapidly gained favor with the flying personnel, who have found it much faster and more maneuverable than the present service type.

Powered with either the Curtiss D-12 or the Liberty motor; excellent from a maintenance standpoint; with a truly remarkable performance, the "Falcon" fulfills its advance indications of being the finest observation type in service today - a worthy "big brother" to the Curtiss "Hawk", the standard service pursuit plane of the U. S. Services.

THE CURTISS AEROPLANE & MOTOR COMPANY, INC.
GARDEN CITY, N. Y. BUFFALO, N. Y.

faith of the public is badly shaken with a very adverse effect on public support of aviation. Forcefully, Senator Bingham said that aviation people had to "quit telling lies about aviation". Only in this way could public support of, and faith in, aeronautics be obtained and development be fostered.

The Government's greatest duty in connection with this development was in the provision of emergency landing fields along the principle air routes throughout the country. Senator Bingham took the analogy of the mariner at sea. Sailors proverbially avoid sailing along a lee shore and put out to sea when such a thing becomes necessary. On the other hand, the flier is always compelled to sail along a lee shore, as it were, in view of the fact that it is relatively impossible for him to get further away than about six miles from the earth, no matter what nature of weather he may meet. Thus, therefore, there is no question of flying being less of an all-weather means of transportation than is traveling at sea, but the inherent conditions make it absolutely essential for a pilot to be able to put into an emergency landing field at all times during a flight across country when conditions make it imperative for him to 'sail along a lee shore' owing to his close proximity to the earth. It was the Government's duty to provide emergency landing fields of this nature and it was up to the municipalities to provide airports such that they may be brought into the coming nation-wide system of airways which undoubtedly will be existent throughout the country in the not far distant future.

Importance of Municipal Airports

Emphasizing the value which an airport is likely to prove to a city which is farsighted enough to create such within its limits, Senator Bingham pointed to the case of Houston, Tex., a city ten years ago considered as an inland municipality. Last year he had occasion to visit this city and during his visit was asked to inspect its harbor. Ten years ago, Houston was connected with the Gulf of Mexico by a tiny stream of trickling water, and, expressing surprise at hearing of a harbor in the city, Senator Bingham was told that no less than forty-one steamship lines called at Houston. The city had been farsighted and spent millions of dollars in opening up the tiny stream which connected the city with the sea and had forged a great channel down to the Gulf, bringing itself into the category of a regular seaport. This seemingly collossal investment had meant millions to Houston and had made it one of the busiest seaports in the country. Will not the possession of an airport bring similar prosperity to a city?

To Improve Aviation Insurance

The civil aeronautics bill recently passed by Congress affected only interstate commerce and left the private flier entirely untouched. Provided he did not carry passengers for hire or indulge in interstate commerce, he could do as he pleased and fly what he pleased as far as the Federal Government was concerned. But just as marine insurance had been of the greatest importance in building up marine commerce and making it a feasible commercial and financial proposition, so air insurance would have an important bearing on the commercializing of civil aviation and the provision of airways and regulation of interstate commerce would, among other things, enable adequate air insurance to be obtainable with its resultant favorable effect upon commercial development. People were inclined to look upon the conditions of aviation insurance as unnecessarily exacting but one only had to consider the requirements of marine insurance to realize that the conditions in the case of aviation were by no means illegitimate. A marine insurance company required to know the record of the captain of a ship before it was possible to fix rates of coverage. Also, the route or routes over which the ship was to be operated had an important bearing on the question of marine insurance, and so, in the air, these similar conditions will become paramount and must be accepted as reasonable.

In closing, Senator Bingham lauded the three new assistant secretaries for aviation, saying that the country was fortunate in having three such able men to guide its aviation destinies.

The next speaker was the Hon. Trubee F. Davison, Assistant Secretary for Aviation. Mr. Davison said that that was the second public appearance of the three new assistant secretaries for aviation, their first appearance being on the previous Thursday and he caused much amusement when he suggested that, as their next engagement together was for next Thursday (Sept. 9, at the N.A.A. Banquet), Thursday must be their "night out".

McCook Field Pioneers

Becoming serious, Mr. Davison expressed enthusiasm over the passage of the three new aviation bills in Congress, saying that they give new impetus to aviation. As did Senator Bingham, so also did Mr. Davison emphasize the importance of making the people of the country air-minded. In this respect and in the development of aviation and aeronautics to a state of perfection necessary for rapid development, the Air Corps has been very active. Mr. Davison took as an example of this, the tremendous amount of work carried out by the Air Corps Engineering Division at McCook Field, Dayton, O. Two main developments for which credit is very largely due McCook Field were that of the parachute and its use and the work on the reduction of the possibilities of fire in airplane crashes. As a result of the experimental work on parachutes and the development work which has been carried on, the regulation Army parachute in use today has never been known to fail to open when carrying a live load. [Reference is made, of course, to the Irvin Airchute, the standard Air Corps parachute, and considerable credit is, very naturally, due the Irving Airchute Company which has been so largly responsible for the development of this parachute—Editor]. Continuing, Mr. Davison said that since the use of the parachute had been compulsory among Army Air Corps pilots, thirty-three service fliers had been forced to take to their parachutes in the air and thus, what might have, with little doubt, been thirty-three fatalities had been avoided.

Senator Hiram Bingham

Mr. Davison said that as a result of the extensive experiments carried out at McCook Field in the causes of fire in airplane crashes, it had been determined that the chief cause of ments carried out at McCook Field in the causes of fire in aircovered by numerous experiments which had been made by sliding old airplane fuselages, with engine running, down a long slipway onto a concrete wall and taking slow motion pictures of the resultant crash and fire. Closing, the Assistant Secretary of War said that the War Department was very appreciative of the aeronautical activities of the Society of Automotive Engineers for much good was coming out of the thought and energies given to aviation problems by its members.

MARTIN U.S.A.

TRADE MARK

The Star in the Sky

Whether on the wing of a mail plane, a bomber, a naval reconnaissance plane or a commercial carrier, the tri-color star of The Glenn L. Martin Company holds the same significance to the experienced observer—*engineering supremacy—fine workmanship and unremitting care—experience dating back to the infancy of the art seventeen years ago—DEPENDABILITY.*

POPULAR WRITERS are fond of comparing the airplane with the automobile and prophesying parallel developments. In one vital characteristic, however, there must always be a point of contrast. In its factors of safety the plane must always represent the greater responsibility to its makers. Margins established on a guess-and-hope basis have no place in flying. Experimenting should be monopolized by the maker—not left to his purchasers. As one man expressed it, "there are no cross-road garages a thousand feet up!"

With the primary facts of flying established and mastered, the task of the engineer and manufacturer is radically changed. The goal is now maximum dependability. The study, the research, the experiment is today centered on the perfection of detail.

In this second stage of progress, the Glenn L. Martin organization is re-proving the same vision, the same painstaking research and the same creative capacity that enabled it to maintain its leadership throughout the first seventeen years of its contributions to the art of aviation. Its shops, its laboratories and its flying field continue to be the center of unremitting progress.

Mr. Loening then introduced the Hon. Edward P. Warner, Assistant Secretary of the Navy for Aeronautics, paying a tribute to Mr. Warner's prominence in the field of aeronautical engineering. Mr. Warner, he said, was, with little doubt, accepted throughout the entire field as the country's leading aeronautical engineer and the Navy was fortunate in having its aviation destinies under the guidance of one so conversant in all phases of aviation.

A Plea For Cooperation

Mr. Warner then spoke of the engineering problems of the naval air service and how he was now in the position of viewing the engineering field from the outside. He spoke of the problems of the aeronautical engineers in meeting the Navy specifications for aircraft and entered a plea for ample scope being allowed the designer of naval airplanes in fulfilling the required specifications in order that the fostering of original ideas and developments might not be impeded. It was essential that the contractor in the industry for naval aircraft should cooperate to the greatest possible extent with the Navy Deparment in the endeavor best to fulfil the specific requirements of naval aviation.

Mr. Warner emphasized the importance and value of the work carried out by the National Advisory Committee for Aeronautics. Furthermore the aeronautic meetings of the Society of Automotive Engineers were performing an important service in helping to fill the "twilight" gap between the aeronautical laboratory and the aircraft manufacturer. Mr. Warner, in conclusion, spoke on the great value of aviation to the national defense, saying that fifteen years ago the total governmental appropriation for aviation was but $100,000, while now it had increased to nearly $40,000,000. This was a striking example of the tremendously increased value of aviation within comparatively so short a time.

Introducing the Assistant Secretary of Commerce in charge of the Bureau of Civil Aviation, Mr. Loening said that the Hon. William P. MacCracken, Jr., was not only a pilot who had done considerable flying but was also a lawyer who had devoted a very great deal of time during recent years to a careful consideration and analysis of the questions of air legislation. Mr. MacCracken commented upon what Senator Bingham had previously said and on the very clear idea which he, Senator Bingham, had of the problems of commercial aviation and its encouragement and development. Mr. MacCracken remarked that it was interesting to note that the first state in the country to put on its statute books a law for the air was Connecticut, Senator Bingham's own state.

The Engineering of Civil Flying

Continuing, Mr. MacCracken spoke at some length on what he termed the engineering problems of civil aviation. Taking these problems under separate heads, he spoke of the question of safety as paramount, saying that the causes of accidents might be divided under three headings, namely, equipment failure, engine failure, and the problem of navigational aids to aviation. He stressed the importance of an instrument for airplanes which would enable a pilot to know exactly and at any time the distance of his plane above the ground over which he was flying and not, as at present, just an instrument which gave his height above sea level or above the ground from which his flight commenced. Another very valuable instrument which should be developed if at all possible was one which would give the pilot some indication of the proximity of other aircraft.

The design of the airplanes for commercial purposes had an important bearing on safety of operation. While crashes are to be avoided and prevented, it was still important to bear in mind the possibility of a crash in a civil airplane and every endeavor should be made in the design of such a plane to incorporate all possible means of avoiding excessive damage, and particularly fire. The question of a non-inflammable fuel should be given careful thought.

A second problem in the development of commercial aviation was that of cost. In this connection, Mr. MacCracken pointed out that the United States was the first nation to set out to make the airplane provide an economic service. The problem was not going to be easy and, therefore, every endeavor must be made to reduce both the first cost of airplanes and the cost of their operation. In regard to the latter, the importance of small costs was emphasized by Mr. MacCracken. He said that these small items very rapidly mount up and pointed out that even two cents at the end of a year's operation might spell the difference between a financial failure or otherwise. But the great fact regarding the Air Commerce Act was that it provided for not subsidies and no franchises.

But civil air transportation for passengers would never come without comfort in travel. No matter how rapidly a business man desires to reach his destination, he will always want comfort and Mr. MacCracken spoke of the noise of traveling by airplane as one of its greatest failings. Every endeavor must be made to attract passengers to travel, as the real success of air transport depended so largely upon the extent of development in passenger travel.

With the conclusion of Mr. MacCracken's speech, one of the most illuminating and instructive aviation social functions was brought to a close.

The Technical Sessions

The Aeronautic Banquet was the termination of the first day of the S.A.E. Aeronautic Meeting, which opened at 10:00 a. m. with the Engine Session with Arthur Nutt, of the Curtiss Aeroplane and Motor Company, in the chair. The first paper was by Comdr. E. E. Wilson, U.S.N. on "Air-Cooled Engines in Naval Aircraft". Commander Wilson very interestingly discussed the problems of the Navy in aviation and how the air-cooled engine for naval airplanes best fitted into these requirements. He spoke of the Wright J series which has been so successfully developed by the Wright Aeronautical Corporation in cooperation with the Bureau of Aeronautics, to the extent that the Whirlwind engine is one of the most successful air-cooled engines in the World at this time and is in extensive service and commercial use. The latest model of the Whirlwind engine, the J-5, is proving a marked success. Commander Wilson also dealt with the Pratt and Whitney Wasp engine development and the successful manner in which it had been installed in high speed pursuit airplanes.

The next paper of the session was by G. J. Mead, vice-president of the Pratt and Whitney Aircraft Company. Mr. Mead discussed the internal design and construction of the Wasp engine at considerable length and showed a number of interesting and valuable slides.

And, finally, closing the session, E. T. Jones of the Wright Aeronautical Corporation, read a paper on the "Development of the Wright Whirlwind Type J-5 Aircraft Engine". His discussion of the Whirlwind series of engines and the improvements made step by step since the production of the early Lawrance air-cooled radials was most interesting and it is very satisfactory to learn of the success which is being obtained with the new Whirlwind, the J-5.

Private Airplanes

In the afternoon of Sept. 2, the General Session was held under the chairmanship of Prof. Alexander Klemin, of New York University. The first paper was on "Airplanes for Individual Ownership" by Louis G. Meister, of the Buhl-Verville Aircraft Company. Mr. Meister's paper was most interesting since he is a pilot of considerable experience and can, therefore, tell the designer of commercial airplanes much that would be of great value in the production of an ideal commercial design. The paper by Eddie Stinson on the same subject was not read owing to Mr. Stinson being unable to be present.

Dr. Adolf Rohrbach's paper on "Economical and Rapid Production of All-Metal Airplanes and Seaplanes" was, in the absence of Dr. Rohrbach himself, presented in abstract by Charles H. Keel. And the session closed with a very instructive paper by Lieut. Comdr. Charles E. Rosendahl, U.S.N., commanding the airship Los Angeles. The paper was on the "Development of Methods of Mooring and Handling Rigid Airships".

On Sept. 3, in the morning, the Air Transport Session was held with William B. Stout in the chair. The first paper was by W. L. Smith of the Air Mail Service on "How I Fly

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More WACO'S are now in service for profit and pleasure than all other planes now in production in America.

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at Night". Mr. Smith has had a great deal of experience in flying the mail on the New York-Chicago route and his remarks on the value of certain instruments and the methods of night and fog navigation were of the greatest interest and value to all fortunate enough to hear him. It is hoped that it will be possible to publish much of his paper later, with some of the other papers also.

The next paper was on "Lighting Equipment for Airways, Airports and Airplanes" by C. T. Ludington, of the B.B.T. Corporation, and H. C. Richtie, of the General Electric Company. This paper was naturally very valuable because of the present interest in airway equipment. The session closed with a paper by Capt. W. H. Murphy, Army Air Corps, on "The Stationary and Rotating Equisignal Beacon". This paper was presented by Lieut. L. M. Wolfe, Army Air Corps, and was a very complete dissertation on the subject of the radio beacon and its development by the Engineering Division of the Army Air Corps at McCook Field.

To the Naval Aircraft Factory

The Aeronautic Meeting closed in the afternon with a visit to the Naval Aircraft Factory when visitors were given the opportunity of seeing many of the interesting developments which are going on there, including that of the heavy oil engine. Undoubtedly one of the most interesting demonstrations given by the Factory was that of the catapulting of a Vought UO-1 seaplane. This was witnessed at close range by the visitors. The visit, which was obviously very greatly enjoyed and appreciated, was arranged through the courtesy of the Navy Department and Capt. George C. Westervelt, manager of the Naval Aircraft Factory.

The Society of Automotive Engineers is to be congratulated on arranging so inclusive and successful an aeronautic meeting.

Radio Aids to Air Navigation

One of the many phases of the civil aeronautics program in progress in the Department of Commerce under the Hon. William P. MacCracken, Jr., Assistant Secretary, is the work being done by the Bureau of Standards on the development of radio aids for aircraft. Radio has already proved invaluable as an aid to marine navigation and will undoubtedly be of similar aid to air navigation. At the present time the work of the radio laboratory of the Bureau of Standards is being devoted to five main projects.

1. Installation of an equisignal radio beacon at College Park, Md.

This installation at College Park, Md., of an equisignal radio beacon is of the type developed by the Bureau of Standards in 1921. The interlocking and goniometer features which have since been added by the Signal Corps engineers at Mc Cook Field, Dayton, Ohio, will be incorporated.

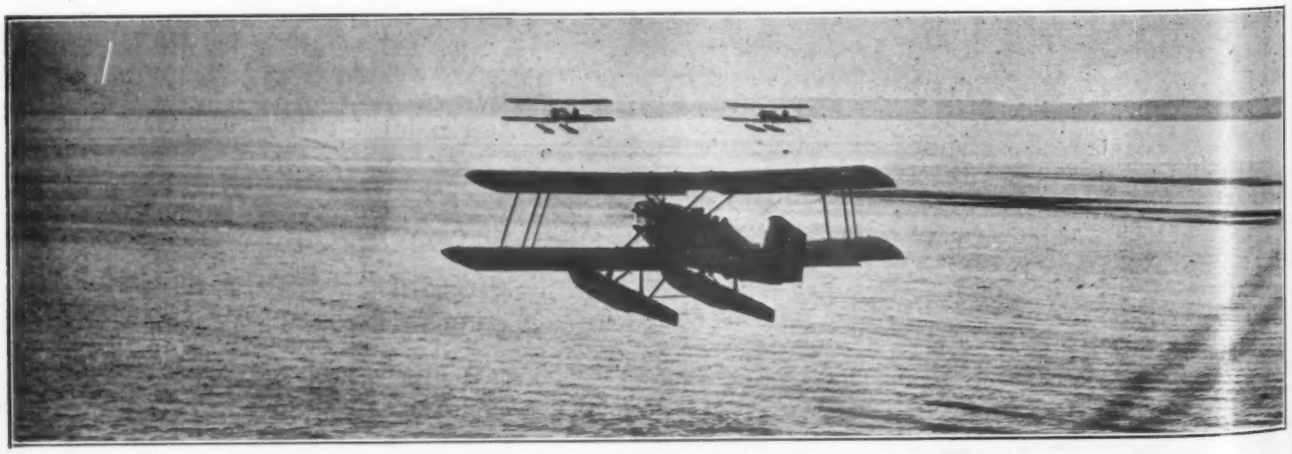
This beacon will be installed in one corner of the aviation field at College Park, Md. A 70-ft. wooden tower is being built to hold the antennae system. This tower will be painted a brilliant yellow so that it may be readily seen by pilots coming into the field. It is made of wood so that it will not influence the director properties of the antennae system. A small wooden house is built directly under the tower in which will be located the beacon apparatus. This apparatus consists of a goniometer unit which makes possible the orientation of the dash zone of the interlocking signal at any desired angle. The radio transmitting apparatus which operates on a frequency of 290 kilocycles, the frequency assigned for aircraft beacon purposes, consists of two 250 watt tubes with 500 cycle supply to the plates. The antennae system consists of two single-turn coil antennaes triangular in shape with the vertex at the top of the tower. These antennaes have a base 300 ft. long. They are oriented at an angle of 90 deg., and held taut by a 100 lb. weight on each antennae. An airplane has been assigned to the Bureau of Standards for use in its development work on radio aids to air navigation. Lieut. Frank W. Jerdone of the Army Air Corps has been selected to pilot the plane.

2. Improvements on the present beacon system. It is important that the best possible type of beacon be worked out before any number are installed on the various air routes. Research work is now in progress at the radio laboratory of the Bureau of Standards on a number of features which will improve the operation of the beacon. Among these is a new type of interlocking switch and much smaller type of goniometer.

3. A visual indicator. A method is being developed by means of which a pilot may determine his course by observing a pointer. This method will be tried in comparison with the interlocking or aural system by installing both types of receiving apparatus on the airplane and trying them out under various conditions of atmospheric disturbances, ignition noises, etc.

4. The marker beacon. By means of the interlocking type of equisignal beacon, a pilot may hold to a definite course but his position along this course may be unknown, especially under bad weather conditions when the ground is not visible. A low power marker beacon is being developed to produce a distinctive radio signal at approximately every 25 miles along the course. These signals will indicate the position of a plane flying over them just as a mariner determines his location by the character and pitch of fog signals sent out from a lighthouse.

5. Communication Systems. One of the most important types of information that a pilot should have during flight is the change in weather conditions along the route he is flying and at the field where he is to land. If these conditions become poor it should be possible to tell him where he should go to find a field where a safe landing may be made. The radio telephone or telegraph offers the only means of getting transmitting apparatus to be used at the airports and on the airplane.



Three-Purpose Curtiss CS planes of the Navy

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Quality is first in their design and manufacture
Up-keep, ordinarily a serious problem is almost nil

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Only American manufacturers specializing in training airplanes
Five years continuous development on one basic design
Safest training and sportsmen's airplanes ever flown

Contractors to United States Army and Navy

CONSOLIDATED AIRCRAFT CORPORATION

Buffalo, New York

Nicholas-Beazley Produces New Commercial Airplane

The Standard J-1 OX-5 Commercial Airplane.

THE NICHOLAS-BEAZLEY Airplane and Motor Company, of Marshall, Mo., long one of the leading aircraft manufacturing and supply firms in the Middle West, has recently produced a new commercial airplane known as the Nicholas-Beazley Standard J-1. The machine, which is a three-seater plane, is built up of Standard J-1 material redesigned by the Nicholas-Beazley Company for the special requirements of the plane. As a result of the care which has been put into its production, the machine, although built out of war-production material, is very reliable and thoroughly sound and, of course, it has been possible to keep the price down to a minimum.

Constructional Details

Structurally, as already mentioned, the machine is built up of Standard J-1 material. The wings consist of four J-1 lower wings, with the pronounced sweepback maintained, while the fuselage, also primarily a J-1 part, has been redesigned and considerably shortened. The entire structure has been made considerably lighter, maintaining adequate strength throughout. The empty weight of the airplane is 1275 lb.

The plane is a two-bay biplane with ailerons arranged on the upper wings only. The position of the upper wing is such that an excellent view above is available to the pilot while he also has a good view for landing. The undercarriage, as will be seen from the photographs, is of normal conventional type with through-axle. The finish of the plane is with two coats of clear dope and four coats of aluminum pigmented dope with no varnish at all.

Specifications and Performance

One of the interesting features of the plane is the ease with which it may be transformed into either a passenger carrying plane or a training machine with dual control. The dual control system is such that it can be installed or taken out in but a few minutes.

The Nicholas-Beazley Standard J-1 is equipped with the Curtiss OX-5, the Curtiss OXX-6 or the 150 hp. Hispano Suiza engine. The general details of the OX-5 plane and, in the absence of official flight tests, the manufacturer's figures of performance, are as follows:

Span overall, upper and lower wings	31 ft. 6 in.
Chord	6 ft.
Gap	6 ft.
Dihedral angle	0 deg.
Sweepback	5 deg.
Stagger	7 ft.

Weights with OX-5 engine as follows:

Weight empty, without water, gasoline or oil	1275 lb.
Fuel	285 lb.
Pilot	170 lb.
Payload	400 lb.
Total weight, fully loaded	2130 lb.

The following is the performance with the OX-5 engine:

Maximum speed	85 m.p.h.
Cruising speed	75 m.p.h.
Landing speed	30 m.p.h.
Climb in 10 min.	3000 ft.
Approximate radius of operation	350 mi.
Ceiling	12,000 ft.

It is extremely interesting to learn that, in spite of the fact that this plane has only been in production for the past eight weeks the Nicholas-Beazley Company is receiving orders from all over the country. The plane has already become very popular, if one is to go by the many letters and telegrams of appreciation which the company has received.

A Traveling Salesman

The company has just sent one of its pilots and salesmen, Charles Peeples, out on the road, or should one say, " in the air", with one of the new Standard J-1 planes. He is equipped with a complete line of samples of all new-production airplane parts which the Nicholas-Beazley firm is producting, including dope, cloth, etc., and Mr. Peeples will fly from coast to coast and from North to South and call on dealers in every city for the purpose of demonstrating the plane and exhibiting the material and parts produced by his company.

A side view of the Nicholas-Beazley Standard J-1 commercial airplane (Curtiss OX-5)

THE NEW SUPPLEMENT—

Contains Over 450 Illustrated Airplane Parts

PAGE 15 OF OUR CATALOG

Listing instruments, dural sheets, dural tubes, dural rivets, screws and bolts, airplanes, motors, aluminum, sheets, tubing, rivets, pulleys, strainers, fittings, fabric and tapes and over

A New Safety Belt for $3.00

Fastens across lap or over shoulders or both. Prevents head from going forward—Positive lock yet releases instantly.

FROM A PAGE IN OUR SUPPLEMENT

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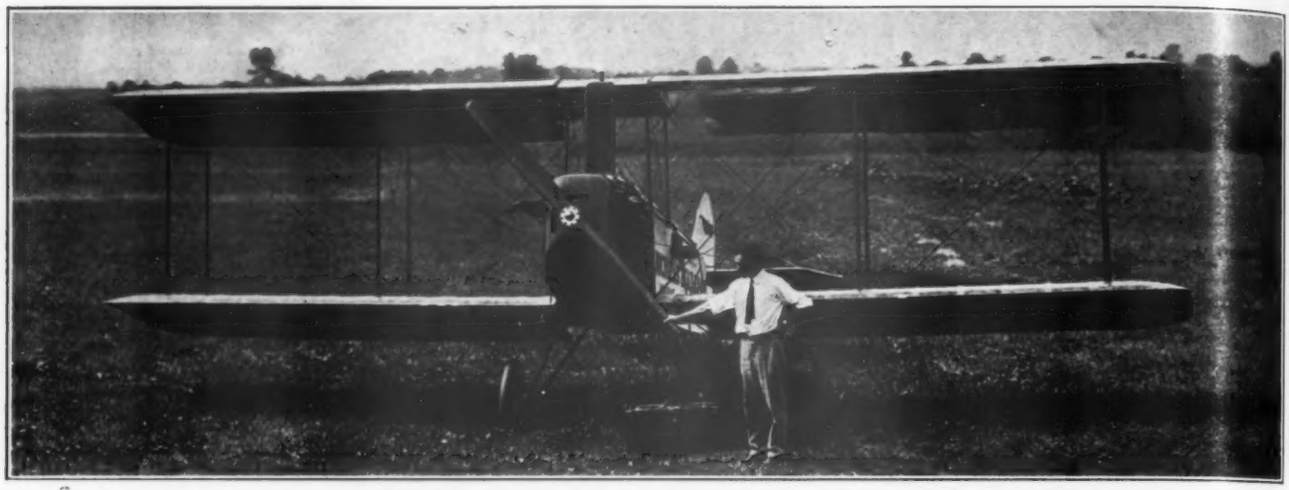


Another view of the Nicholas-Beazley Standard J-1 (Curtiss OX-5)

While Mr. Peeples will devote a great part of his attention to the wholesale trade, he will also demonstrate for retail purposes. The scope planned for Mr. Peeples tour is so large as to make the undertaking somewhat novel in the aircraft manufacturing trade and there is no doubt that his visits at the different cities will be awaited with considerable interest.

United States Civil Service Examination

The United States Civil Service Commission announces an open competitive examination for thte position of Associate Instrument Engineer.

Applications must be on file at Washington, D. C., not later than Sept. 28. The examination is to fill a vacancy in the Air Service, McCook Field, Dayton, O., vacancies in the Bureau of Standards, Department of Commerce, Washington, D. C., and vacancies occurring in positions requiring similar qualifications.

The entrance salary for this position in the District of Columbia is $3,000 a year. After the probational period required by the civil service act and rules advancement in pay without material change in duties may be made to higher rates within the pay range for the grade, up to a maximum of $3,600 a year. Promotion to higher grades may be made in accordance with the civil service rules as vacancies occur. For the Field Service the salary will be approximately the same.

The duties are to design and develop new aeronautical instruments, to improve those being used, to make calculations relative to construction and operation of those designed by others, and to consult with others respecting the application of engineering principles to construction of such instruments. The duties will include work on instruments for both lighter-than-air and heavier-than-air aircraft.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

Aircraft Exports

The Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, announces domestic exports of aircraft and engines from the United States, for May and June, as follows:

MAY

Countries	Engines for aircraft Number	Engines for aircraft Dollars	Airplanes, seaplanes and other aircraft Number	Airplanes, seaplanes and other aircraft Dollars	Parts, except tires Dollars
Germany	—	—	—	—	270
Soviet Russia in Europe	38	94,000	—	—	—
Sweden	30	6,951	—	—	—
United Kingdom	8	62,920	—	—	1,657
Canada	4	10,885	1	2,000	3,063
Honduras	—	—	—	—	171
Nicaragua	—	—	1	3,500	—
Mexico	—	—	2	700	194
Cuba	—	—	—	—	1,483
Argentina	—	—	—	—	1,478
Chile	1	17,000	—	—	11,000
Australia	—	—	36	2,793	—
New Zealand	1	1,100	—	—	—
Total	82	192,856	40	8,993	19,316

JUNE

Countries	Engines for aircraft Number	Engines for aircraft Dollars	Airplanes, seaplanes and other aircraft Number	Airplanes, seaplanes and other aircraft Dollars	Parts, except tires Dollars
Germany	—	—	—	—	101
Italy	—	—	—	—	500
Soviet Russia in Europe	12	36,000	—	—	—
United Kingdom	6	46,740	—	—	279
Canada	10	6,503	7	2,866	3,196
Honduras	—	—	—	—	557
Nicaragua	—	—	2	7,059	—
Mexico	—	—	—	—	352
Colombia	1	1,600	—	—	—
Peru	1	3,000	2	42,000	4,430
Philippine Islands	—	—	4	29,578	3,500
Total	30	93,843	15	81,503	12,915

A line up of some of the planes of the Nicholas-Beazley Airplane and Motor Co. of Marshall, Mo.

RYAN M-1

STOCK MODEL IN EVERY RESPECT

At the National Mile High Air Meet, Denver, Colorado, it won every event for airplanes in its class.

Throughout the Ford Reliability Tour people were surprised at its maneuverability, ease of handling and performance.

The phenomenal success of Ryan M-1 can, to a large degree, be attributed to the superior performance and unfailing reliability of Wright Whirlwind motors, and the exact engineering of the monoplane itself.

$2890 to $8400

RYAN AIRLINES, INC.

San Diego, Cal.

Mexico to Link with Air Mail

Announcement has been made by Postmaster General New that the Mexican Post Office Department has arranged with the U. S. Post Office Department to connect with the contract air mail service between Dallas and Fort Worth, Tex., and Chicago, Ill. and the Trans-Continental Air Service from Chicago to New York.

Letters from Mexico City will leave that Capital at 9 p. m. and will make immediate connection with the airplane leaving Fort Worth in the morning, three nights and two days after the letter is mailed at Mexico City. Letters from the United States will be treated as special delivery letters on arrival in Mexico. At present, the Mexican Post Office Department is making no additional charge for this service.

The rules issued by the Mexican Post Office Department stipulate that white envelopes must be used; that the letters must be marked "via air mail", and that the letters should be delivered at the special delivery window. Letters will be received at the Mexico City Post Office up to 8.20 p. m., except in the case of registered letters, which will be accepted up to 7.00 p. m.

The Mexican Post Office Department has published the following schedule showing the time of arrival at various American cities, together with postal charges:

Date	*Cities*	*Hour*	*Rate per 20 gr. or fraction*
Leave Monday	Mexico, D. F., by railway	9:00 P. m.	——
Arrive Thursday	Fort Worth, Tex., by railway	7:15 a. m.	——
	(Immediate connection made with air service in Fort Worth)		
Leave Thursday	Fort Worth, Tex., by airplane	8:00 a. m.	——
Arrive Thursday	Oklahoma, Okla., by airplane	10:00 a. m.	$0.30
Arrive Thursday	Wichita, Kans., by airplane	11:47 a. m.	0.30
Arrive Thursday	Kansas City, Mo., by airplane	1:47 p. m.	0.30
Arrive Thursday	St. Joseph, Mo., by airplane	2:30 p. m.	0.30
Arrive Thursday	Moline, Ill., by airplane	5:30 p. m.	0.30
Arrive Thursday	Chicago, Ill., by airplane	7:20 p. m.	0.30
	(Immediate connection made with airplane leaving for New York)		
Leave Thursday	Chicago, Ill., by airplane	7:30 p. m.	0.45
Arrive Thursday	Cleveland, Ohio, by airplane	11:00 p. m.	0.45
Arrive Friday	Bellefonte, Pa., by airplane	12:30 a. m.	0.45
Arrive Friday	New Brunswick, N. J., by airplane	4:45 a. m.	0.45
Arrive Friday	New York, N. Y., by airplane	6:20 a. m.	0.45

In accordance with the above itinerary, a letter from Mexico will arrive in New York in 81 hr. and 20 min.

For correspondence destined west of Chicago, the itinerary is as follows:

Date	*Cities*	*Hour*	*Rate per 20 gr. or fraction*
Leave Monday	Mexico, D. F., by railway	9:00 p. m.	——
Arrive Thursday	Chicago, Ill., by railway	7:20 p. m.	$0.45
Leave Thursday	Chicago, Ill., by airplane	8:00 p. m.	0.45
Arrive Thursday	Iowa City, Iowa, by airplane	8:20 p. m.	0.45
Arrive Thursday	Des Moines, Iowa, by airplane	9:15 p. m.	0.45
Arrive Thursday	Omaha, Neb., by airplane	11:15 p. m.	0.45
Arrive Friday	North Platte, Neb., by airplane	1:20 a. m.	0.45
Arrive Friday	Cheyenne, Wyo., by airplane	4:23 a. m.	0.45
Arrive Friday	Rawlins, Wyo., by airplane	6:05 a. m.	0.55
Arrive Friday	Rock Springs, Wyo., by airplane	7:55 a. m.	0.55
Arrive Friday	Salt Lake City, Utah., by airplane	9:10 a. m.	0.55
Arrive Friday	Elko, Nev., by airplane	11:30 a. m.	0.55
Arrive Friday	Reno, Nev., by airplane	2:15 p. m.	0.55
Arrive Friday	Sacramento, Calif., by airplane	3:35 p. m.	0.55
Arrive Friday	San Francisco, Calif., by airplane	5:00 p. m.	0.55

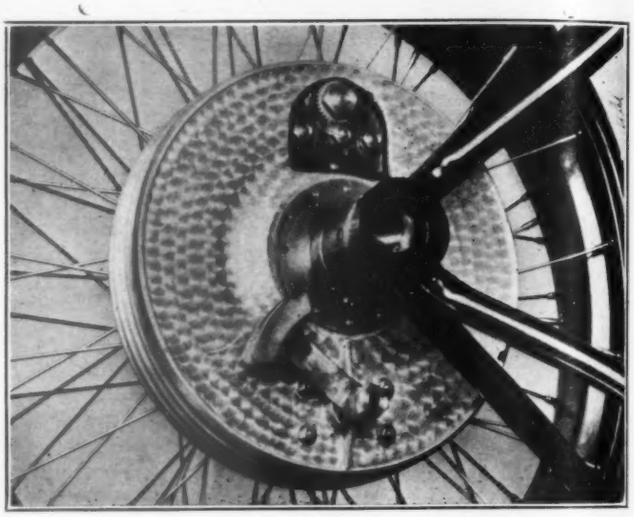
In accordance with the above itinerary, a letter from Mexico will arrive in San Francisco, Calif., in 92 hr.

Sauzedde Airplane Wheel Brakes

The first airplane wheel with an integral brake to be placed in production is now being manufactured at Mt. Clemens, Mich., near Detroit, by the Sauzedde Wheel Co.

The brake is the development and invention of Claude Sauzedde, who, after collaboration with several airplane manufacturers was told they favored the use of brakes if efficient apparatus could be provided. His first job was to develop a brake for the Stinson Detroiter, to replace the brakes with which Eddie Stinson equipped his first plane.

In the second annual Commercial Airplane Reliability Tour there were a number of 'planes equipped with Sauzedde brakes, including the Stinson Detroiter and the two Buhl-Verville Airsters, while two Fokker planes have recently been equipped with these brakes. Other manufacturers have also ordered the brakes. Furthermore, a set of the brakes is now at McCook Field for official government tests.



The Sauzedde wheel brake. Note the cooling fins on the Drum

The wheel is of light construction with spokes, hub and axle of an alloy composition. The spoke arrangement cares for every possible strain which will be met on landing or taxiing across rough fields. There are three banks of spokes, thirty-two in one and sixteen in each of two others. The brake mechanism is self-energizing and operates with equal force in forward and reverse motion of the wheel. A wire enclosed usually in the steel tubing of the landing gear transmits the force to the brake from the rudder bar pedals.

Brakes decrease the landing roll of planes by two-thirds, according to Army Air Corps tests. They are a great advantage in enabling a pilot to lock his wheels while he warms up his engine, and to steer his plane anywhere on the field, and even into the hangar alone.

A line-up of planes of the Spanish Air Service

The French Seaplane Competition

The competition for multi-engine commercial seaplanes which was held the first week of August at Saint Raphaël, France, was won by a Météore flying boat fitted with three 180 hp. Hispano-Suiza engines. The machine, which was piloted by Mr. Burri, made the following performances: high speed, 160 kms. per hr; climb to 2000 m. altitude in 26 min.; flight with one engine stopped 2 hr. 10 min. carrying a pay load of 942 kg. The machine is equipped to carry nine passengers.

The second place was won by Lioré-Olivier flying boat (three 420 hp. Jupiter engines) piloted by M. Benoit, lieutenant in the French Navy. This machine made a high speed 162 km. per hr. climb to 2000 meters altitude in 17 minutes and flew for 35 min. with one engine stopped while carrying a pay load of 1024 kg.

Points were awarded to the contestants for seaworthiness, the use of radio while afloat, accessibility of the engines and starting in flights, protection against fire danger and, finally, comfort. The aggregate of the points given was 560 for the Météore and 304 for the Lioré-Olivier.

Ryan M-1 Monoplane Makes Record

The Ryan M-1 monoplane which recently made a non-stop flight of 960 miles from Vancouver Field, Wash., to Los Angeles, Cal., carrying a useful load 320 lb., greater than its own weight, made the trip in 8 hr. 50 min. A check of the gasoline showed that the plane could have continued to San Diego, 210 miles further, without using the 15 gal. reserve.

This plane used the Haskelite waterproof plywood, which airplane manufacturers have found gives a maximum strength with minimum weight.

Haskelite Issues Bulletin

The Lightweight Champion's Record is the title of a bulletin published by the Haskelite Manufacturing Co., Chicago. The paper, which recently made its first appearance, will be devoted to news items listing the various industries which are using Haskelite and Plymetl, and each new application of these products to the industrial field will be recorded and explained. No. 1 of this publication carries a picture of one of the ten Curtiss Carrier Pigeons, built by the Curtiss Aeroplane & Motor Co., of Buffalo, for the National Air Transport, Inc., on which Haskelite was used.

Kaess Aircraft Manufactures Seaplane

The Kaess Aircraft Engineering Corp. is at present engaged in the manufacture of a seaplane, which is the beginning of an extensive commercial manufacturing program, to be undertaken in conjunction with such government work as can be secured. Louis L. Kaess, president and owner, has been engaged in aircraft manufacture since 1909.

Japan's Air Program

Japan's commercial aviation program calls for the expenditure of 20,000,000 yen, or about $9,600,000, according to advices to the Dept. of Commerce. It is stated that the Communications Office of the Japanese Government is preparing for submission to the next Diet, a bill granting 11,500,000 yen for the purpose of promoting the development of commercial aviation, and a further sum of 9,500,000 yen for the cost of opening air routes. There will be 450,000 yen available the first part of next year, the total amount extending over a period of seven years.

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A Patented and Proprietary Design

A wide variety of SERVICE TESTS, have been completed with eminent success, in all climates.

The enlarged and efficient Loening plant is now actually in production, with tools, jigs, and equipment for one airplane a week, soon to be enlarged to two a week.

To the long list of notable successful achievements of this versatile plane, have recently been added several new World's records.

LOENING AERONAUTICAL ENGINEERING CORPORATION
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Side Slips

By ROBERT R. OSBORN

By the time this issue of AVIATION gets into the hands of its readers the National Air Races will have become history. There are a lot of standard comments that might be made about any air races and we are greatly tempted to use a few of them in this week's stint, in spite of the fact that the races are still a few days off when this is being written. We have got away with pre-writing a number of times in a few years of semi-amateur newspaper reporting, but air races are too susceptible of postponement to take the chance here. Some of the New York newspapers took this chance last year, in connection with the National Air Races, with sad results. One paper featured a story to the effect that "Last Saturday when the Curtiss Racers were roaring overhead in the annual Pulitzer Trophy Race, a sad-faced, wistful-eyed young model maker watched them, happy in the knowledge that it was his wing section on the Racers." It was a pretty good story, well-written and full of pathos,—but the Pulitzer Race had to be postponed to the following Monday, the day after the paper appeared. Also, in the interests of accuracy, it might be added that the sad-faced, wistful-eyed young model maker was home mowing the lawn when the race was held. So, as we probably said before, there will be no comments on the races in this space, just now.

* * *

Any prophet finding himself "without honor in his own country", certainly could help out his popularity in the home town by winning an air race or two. The front page of "The Wichita Sunday Eagle" for August 22, had an inch high heading announcing "Beach 71 Points To The Good". Most of the issue seems to be given over to explaining where each one of Beach's 4,000 points in the Reliability Tour came from. There is some international political news on the third page inside.

* * *

It seems that the preliminary disarmament conference at Geneva has decided either to limit or not to limit commercial aviation. We've read all of the reports regarding the decision but haven't been able to find out, yet, which way they did decide. The following is a fair example of these reports, and anyone sending in the correct interpretation of this sentence, written in words of one syllable will be awarded this week's prize of two car tickets, good of any of the lines of the Philadelphia Rapid Transit Company:

"The solution provides that while commercial aviation should be permitted to develop freely and unrestrictedly to the maximum commercial requirements of each country, its military value should be taken into account in framing any convention for the limitation of armaments, but that in so doing particular attention should be paid to the regional aspect of the problem". Off hand, it looks to us as if the taxi-cab had the right of way when the accident occurred.

Khartoum-Kenya Air Route

The British Colonial Office recently announced that approval has been given to the Khartoum-Kenya (Africa) aerial route and that service will be in operation within six months. The formation of this air route is generally regarded in South Africa as the initial move in the establishment of a trans-Africa service.

The Cairo-Khartoum project, it is believed, will be the next route launched, after which it is hoped the service will be extended to form a continuous link from Cairo to the Cape. British colonists are looking forward to the inauguration of this service, as well as the early linking up of the Khartoum-Kenya route with Cairo. This would reduce mail time between England and Central Africa to approximately 7 days, it taking a month at present for mail to pass between these two countries.

Lieut. Doolittle, with Lap Pack type; Lieut. Brookley, with Seat Pack type — IRVIN Air Chutes.

In the Service of U. S. A.

They think nothing about it now. These men of the Army Air Service. They step easily into their "IRVIN" harness before going up. And then as they sit comfortably with the "pack" attached, they forget it entirely. Yet it's ready for instant use—if they need, or want it. And it gives them that confident feeling of "ready for anything". Likewise with the U. S. Navy and U. S. Air Mail services.

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IN THE design and construction of several types of all metal airplanes, I have originated duralumin shapes and methods of fabrication which have materially reduced costs and weights and increased performance and strength.

I AM NOW able to offer to engineers, designers and manufacturers a line of special patented duralumin stampings, and drawn parts to meet their individual requirements, such as pulley housings, fairing sections, metal seats, floors, control columns, pedals, interplane and drag struts.

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AIRPORTS AND AIRWAYS

Sacramento, Calif.

By S. E. Shelton

Irwin Airport has been the scene of considerable activity lately. Among some of the week end visitors was Pilot Warren of San Francisco who was enroute to Grass Valley in his Swallow. Mr. Warren had as his passengers Mr. and Mrs. J. E. Clark of the Standard Oil Co.

"Sandy" Saunders of San Francisco was up for a few days recently in his Standard and as usual, had an attractive little lady passenger with him.

Ingvald Fagerskog, a Sacramento pilot who summers in Santa Cruz, was a visitor at Irwin Airport last week in his Comet. Mr. Fagerskog reports the aviation business as very good at the beach this year.

Irwin Airport had a very brief visitor recently when Pilot Wirden enroute Los Angeles to Grass Valley, landed in a Gilmore plane, taxiied up under the gasoline crane, took on gas and oil and departed in less than five minutes. Mr. Wirden was evidently in a hurry to get back to work as he and Pilot McKinney are building up a special job with the Gilmore Aviation Co. in Grass Valley.

Anthony De Kelsa, merchant pilot of Sebastopol, recently dropped in for the week-end, making several short business trips from Irwin Airport to Elk Grove, Grass Valley, etc. Mr. De Kelsa drops in quite frequently as he finds his Jenny indispensable for quick business transactions.

H. G. Andrews of Sacramento has been taking advantage of the excellent runway at Irwin Airport for his students.

Glen Lowe of Woodland was one of the recent visitors and he is now using a Jenny which was recently rebuilt by H. G. Andrews.

Mr. Nicholson of the Senator Theatre in Sacramento, one of Mr. Andrew's students, is now making solo flights.

Plane Aids Recruiting

In order to rivet attention of the citizens of Hartford, Conn., on the need for recruits in the ranks of the 118th Aviation Unit of the National Guard, a Sport plane, built by Percival H. Spencer, was brought from Hartford Field and placed in front of the old State House.

It was the hope of those behind the scheme that it would arouse curiosity and foster an interest in aviation, and in their surmise they were right. For the presence of the plane caused more query and discussion than any other subject in a long time. It is expected that the ranks will be filled in two weeks. All plans for the erection of hangars and detailing to Hartford all the Army planes needed have been completed.

Algiers, Algeria

An aviation school, recently opened at Maison Blanche, nine miles East of Algiers, has been founded for the purpose of arousing an interest in aviation among the population. The training of civilian fliers and the providing of a means whereby reserve officers in civil life may have an opportunity to fly, are among the objects of the school.

Learn to Fly

$100 — Including Solo

No bond required
No charge for breakage

76 Students Graduated in 1925

Eight years without an accident

Room and board near field at $10.00 per week.

We guarantee to solo our students regardless of the number of flying hours required. We also furnish planes at very reasonable rates for those who wish to qualify for the F.A.I. pilots certificate and we maintain an employment agency for our graduate pilots.

The flying school of the Robertson Aircraft Corporation is one of the oldest and best known in the United States. Our instructors are ex-army aviators and are mail pilots with wide experience and our training equipment is the best obtainable. In over eight years of operation our students have never damaged a ship in their solo flights.

The flying field is approximately six miles from St. Louis and is easily accessible by railroad, street car and hard surfaced roads. It is the largest and best privately owned field in the country and the International Races of 1923 were held there. Mail planes arrive and leave daily.

Our course requires about two weeks, depending on the individual, and after its completion the refinements of the art can be gained only from experience. Commercial aviation is a rapidly growing industry. Don't delay! Enroll now!

It is not necessary to purchase an airplane in order to take this course.

WRITE FOR BOOKLET

Guaranteed Condition Airplanes, Ready for Immediate Fly-Away Delivery, at Prices Ranging from $650.00 to $1,750.00

ROBERTSON AIRCRAFT CORPORATION

OPERATORS OF ST. LOUIS-CHICAGO UNITED STATES AIR MAIL

LAMBERT-ST. LOUIS FLYING FIELD, ANGLUM, MO.

Aerial Service in Russia

For the last few years the Russian Soviet Trading Corp. has been sending expeditions to the White Sea to hunt seals. The seals in certain seasons of the year remain on the floating ice, which makes the hunting very difficult. This has led to the use of airplanes for this purpose. A Junkers type 13 plane was sent to Archangel and from there flew to the White Sea to hunt the seals, which are usually seen between the months of March and May. Surface boats, which do the actual hunting, accompanied the seaplane. If this experiment proves a success, the trading corporation will use more planes in future seasons.

The old method of conveying furs from the hunting places in the North has been replaced by specially built planes, constructed by the Dobrolet Company, which is organizing eight air routes between Kromoyarsk and Toorachan and two routes between Krasnoyarsk and Dooinah.

At the Farmers Fair, which will be held in Tifilis, the Zaviachim Company will exhibit planes equipped to fight insects, which have caused great damage to crops.

The Samolet Company made 181 flights during the year, covering 110.992 km., carrying 495 passengers, 7.503 kg. of freight and 2.559 kg. of mail.

The Dobrolet Company made a flight over North Kavkaz, covering a distance of 10,000 km. and carrying over 900 passengers.

Motorists Take Up Flying

Mr. and Mrs. Harry Hilliker, of Buffalo, N. Y., heretofore motorists, have given up this latter means of transportation for flying and will tour the country in a Travel Air, piloted by David Bradford, of Wichita, Kan. Their trip started recently from Curtiss Field, the first stop being made at Albany, where the plane landed on the municipal field. Mr. Hilliker, who is purchasing agent for the General Electric Co., will receive instructions together with his wife in the operation of the plane, while on the trip.

Airplane Wedding

Dr. Harry C. McKown, a professor of the University of Pittsburgh, and Miss Ruth I. Hord, a teacher of Birmingham, Mass., were married on Aug. 17 in an airplane, 4,000 ft. about New York City. The Curtiss Aeroplane and Motor Co., of Garden City, furnished the plane and pilot and the Rev. Leslie J. Barnett, paster of the Morningside Presbyterian Church performed the ceremony. The couple wore flying caps and goggles and had parachutes strapped to their backs. The plane took off from Curtiss Field at 2.30 with Pilot McMullen at the controls. The pilot acted as one of the witnesses, the identity of the second not being disclosed. In order that the voice of the minister could be heard, the motor was shut off and the ceremony performed while the plane glided down.

Duck Forces Plane to Land

The plans of the Imperial Airways for night flights, which have been under way for months, were prematurely brought into operation on Aug. 16, when an unusual accident to a plane, flying from Amsterdam to London, forced the pilot to land. The accident, which happened 40 mi. from Ostend, at which city, however, a landing was made, was caused by a wild duck striking a propellor. On landing the pilot wired to London for a new propellor, which was immediately sent, and the plane reached London at midnight. Accidents of this character have been caused by eagles in the past, but ducks fly lower than airplanes as a rule, and this is the first known case of such an incident.

The Hague, Holland

A new control apparatus, which permits a pilot to fly in a fog, underwent a successful test at the Hague during the week of Aug. 2. The machine used was a dual-control Fokker and in order to insure the success of the trial beyond a doubt, the pilot was so placed in the plane that he could not see outside. The apparatus is said to have worked perfectly but no further details on the system have been received.

BOTH WINNERS

PROTECTOR GOGGLES

The now accepted standard goggle for air pilots. The Protector has the largest vision range. Provided with locking adjustable bridge, guaranteeing perfect fit. Extra soft large rubber cushions assuring utmost comfort. Extra wide head-band. Dust-proof non-fogging lenses. (Slightly tinted lenses 50c extra.

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Junior Model in Metal Case — Series 26, in real leather case

NAVY-TYPE HELMETS

Made to the latest requirements of the U. S. Navy. Cut and sewed in longitudinal sections, they fit perfectly, leaving no gap at the neck or cheeks. Powder puff ear protectors. Only the finest soft sheep leather is used. Chocolate color. Entire helmet is lined with high-grade silk.

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Telephone Westbury 376 — CARLE PLACE, L. I., N. Y. — Next to Curtiss Field

Training for French Pilot's License

About six months training and one thousand dollars are required to acquire an airplane pilot's license in France at the present time, according to a report to the Department of Commerce. In one of the largest French training schools which is located near Paris, and which has been operated by a private company since 1912, tuition charges were quoted at 33,000 francs, about $1,000, in July. Those charges do not include board and lodging during the course of instruction.

Students in the school are required to spend about four months in theoretical study, and two months in practical work with planes. Before being graduated, they must have had 4 hr. taxiing, 8 hr. flying with an instructor, and about 30 hr. solo flying. This permits them to secure a civilian pilot's license, but 10 hr. additional flying is necessary for a military license. The school claims that it has never had a fatal accident since its foundation in 1912, despite the fact that it specializes in training stunt fliers.

Monroe, Mich.

In an endeavor to arouse the interest of the town in a municipal flying field, the Flying Club of Monroe organized an air meet, which was extended from Saturday, Aug. 21, until Thursday. Unfortunately, on the Saturday, a heavy rain interfered with the program, but on the Sunday the skies had cleared and the field had dried out to a certain extent. After an aerial parade over the City of Monroe, the first event was a Jenny race which was easily won by a high lift wing job. There followed a Waco race around a six mile course, after which an impromptu race was arranged between Walter Beach, the winner of the Reliability Tour, in his Travel Air, and Meister and Henry du Pont, both in Buhl-Verville Airsters. The race was eight laps around a two mile course and gave the spectators plenty of thrills, as the three planes kept close together, passing each other on turns like chariots in the circus. Parachute jumps, dead stick landings, and other similar events completed the program and the crowd seemed interested and well pleased.

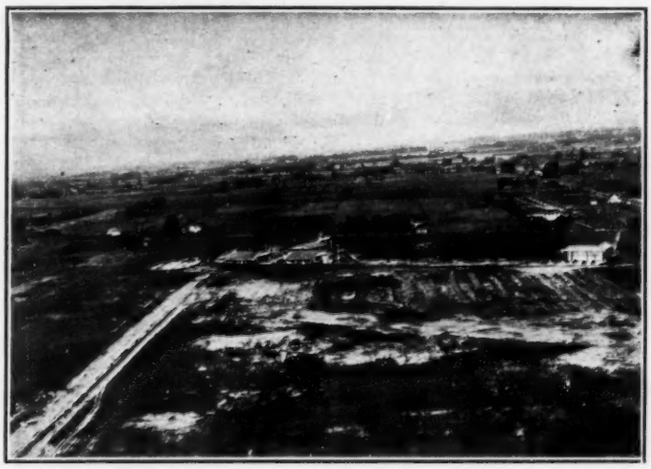
Clveland, Ohio

By Ralph F. Thomas

The arrival of the Tour planes was viewed by no less than 50,000 spectators, the only mishap of the entire event was when pilot Mummert's plane overturned.

Pilot Emerick, who is flying in East Cleveland, is carrying a large number of passengers.

The Bagley Road Field, of the Cleveland Air Services, is kept busy with passengers, student training, advertising, exhibition, parachute jumps and photographic work.



Cleveland Air Service, Inc.

Cleveland Airport

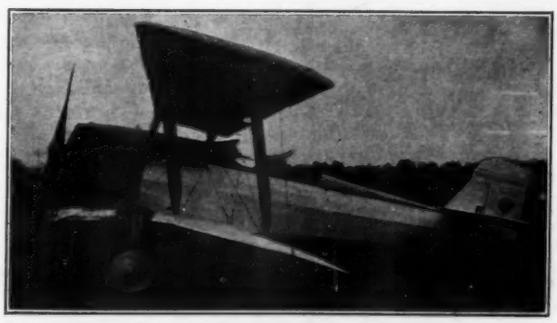
Excitement was provided at the airport recently when Ralph C. Wensinger and Joseph Dunkle, both of the Cleveland Air Service, Inc., made 3,000 ft. parachute leaps from planes. Dunkle leaped from a Glenn L. Martin plane, piloted by Cole, and Wensinger from a Cleveland Air Service plane, piloted by W. D. Weik.

=*ANNOUNCING*=

The New Woodson Mail and Sport Plane.

Divided axle with eight foot tread.

Adjustable stabilizer and vertical fin.



Steel tube fuselage and steel tail group.

Excellent visibility.

Woodson Sport fitted with Wright E-4.

Carries a pay load of 800 pounds and seats 5 people.

A change can be made to any of the following motors in 45 minutes: Salmson, Hisso, Wright J-4, Curtiss K or C-6, OX-5 or Liberty six. The power plant comes off as one unit, with radiator, oil tank, etc., attached to the mount.

Performance.

With Salmson,		With 180 Hisso,	
Maximum speed	135 M.P.H.	Maximum speed	125 M.P.H.
Minimum speed	45 M.P.H.	Minimum speed	40 M.P.H.
Pay load	800 lbs.	Pay load	700 lbs.
With Wright J-4,		With OX-5,	
Maximum speed	130 M.P.H.	Maximum speed	90 M.P.H.
Minimum speed	42 M.P.H.	Minimum speed	38 M.P.H.
Pay load	800 lbs.	Pay load	350 lbs.

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ALL AMERICANS WHO DESIRE TO MAKE AMERICA FIRST IN THE AIR.

We seek, by the promotion and encouragement of civil and commercial air navigation, to contribute to national progress and prosperity and to increase the military safety of the country without giving cause for international jealousy or fear.

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PIGMENTED DOPES
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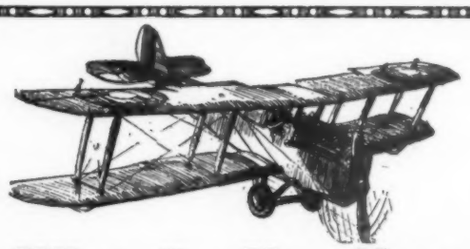

What Do You Know About Airplanes?

A FEW years ago men had to learn about aircraft from personal, costly experience. They had no one to guide them—no one to point out mistakes when they were made—and therefore years were spent learning what takes months now.

THOROUGH — PRACTICAL TRAINING

Today the American School of Aviation offers you these long years of experience and knowledge, which cost millions to acquire, in their new and fascinating Home Study Course in Practical Aeronautics which has been highly endorsed by prominent aviation authorities.

WRITE TODAY

No matter whether you have worked with airplanes all your life or are just beginning in the industry you owe it to yourself to send for a complete and detailed outline of this training and our new and interesting free book, "Opportunities in the Airplane Industry."

American School of Aviation
Dept. 8256
3601 Michigan Ave., CHICAGO, ILL.

Rochester, N. Y.

By M. B. Seales

The greatest ambition of a 90-year old woman was gratified recently in Rochester, N. Y., when Mrs. Anna Salomon of Auburn, N. Y., had her first ride in an airplane. Her grandson, Frank Salomon, accompanied Mrs. Salomon, who has 50 grandchildren and 15 great grandchildren.

Mrs. Salomon has been visiting her son, Frank Salomon, of Rochester. She had long cherished the desire to make at least one flight "through the clouds" and finally persuaded the members of her family to drive to Britton Field where the McDermott-Talaska Airplane Corporation is operating.

The little old lady, as spry as a 20-year old girl, enthusiastically donned helmet and goggles and climbed into the front cockpit of one of the two Curtiss Oriole planes owned by the company. The airplane was piloted by Lieut. Otto Enderton. After the ride was finished, Mrs. Salomon sighed as she was helped out of the plane. "It was wonderful", she declared, "but I would have liked to go higher."

Testing Radio Compass Stations

Radio fans in Rochester had their first opportunity to hear a program broadcast from an airplane during Exposition and Horse Show week, Sept. 6 to 11. For several weeks, members of the Rochester Radio Club have been experimenting with airplane broadcasting from airplanes furnished by Spencer Punnett and Charles Wethern, aviators who are operating planes from the Buckland Flying Field in Winton Road.

The Punnett and Wethern Company's Standard airplane, equipped with a 180 hp. Hispano engine, has been outfitted with a 50-watt transmitter operated by a propeller-driven generator. About 150 ft. of trailing wire antennae is used and a wave-length of between 240 and 250 meters obtained. Eugene Handlar, president of the Rochester Radio Club, has been in charge of airplane broadcasting experiments.

Spokane, Washington

By E. Harve Partridge

To stimulate business on the Pasco, Wash.-Elko, Nev. contract air mail line No. 5, Frank P. Bell, traffic manager of the Walter T. Varney Company has sent 20,000 air mail letters to business houses of the Northwest, telling how the line can be used to big advantage.

Success of his plan is indicated by the fact that within a week after the letters had been sent out, business out of the Spokane office made a new peak and has been steadily climbing since. The line now is making operating expenses and by the time the holiday season comes, Mr. Bell said he believes the line will be on a paying basis.

Business lagged after the novelty wore off the first few days but by using business methods the line made a comeback which has placed it on a sound basis. Only one failure to reach the destination in time to make connections with the transcontinental line has been recorded since operations were begun June 1, when a prop was broken in a storm.

National guard pilots of the 116th aerial observation unit cooperated with the Fort George Wright infantry recently in staging maneuvers. One plane was assigned to the defense and two to the offense and machine gunners tried to "pick off" the aerial spotters. Capt. Tom Symons picked up a message from the ground in full flight through a scheme devised by Capt. A. E. Easterbrook, regular Army flier attached to the guard unit.

Maj. Jack Fancher, commander of the air unit, is spending much of his time campaigning for the Republican nomination for United States representative from eastern Washington. Members of his unit have been backing him strongly and he apparently has an edge for the nomination.

Cuba

According to reports from the Cuban Government, a thorough reorganization of the Cuban Army Aviation Corps is contemplated by President Machado and the War and Navy Department. It is reported that an up to date flying school is to be established so that cadets are not required to go to the United States as is now the case.

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U. S. Air Forces

1,500 Miles in One Day

A round trip from Post Field, Fort Sill, Okla., to Chanute Field, Rantoul, Ill., in one day, was recently made by Capt. R. H. Ballard, Air Corps. Leaving Post Field at about 5 a. m. to ferry Private Gregory to the Airplane Mechanics School at Chanute, Captain Ballard greatly surprised the inhabitants of the post by returning at about 7 p. m. He flew one of the new Douglas O-2 airplanes and made the outbound trip to Chanute Field, a distance of 700 miles, without stop, in 6 hr. and 20 min. Returning, he stopped for gasoline at Kansas City, and required a total of 7 hr. to reach the home airdrome, a distance of 800 miles.

Last year, the same trip was attempted by Captain Ballard in a DH, but after 14 hr. of flying darkness forced a halt at Muskogee, Okla., on the return trip. The distance is about 1,500 miles.

Thirty Air Officers Requested Transfers

Thirty officers of the Air Service voluntarily transferred to other branches of the Army during the fiscal year ending June 30, the Dept. of War announces. This was the largest number of transfers from any branch of the Army.

Eighty-seven officers were moved from one service to another during the year, the Signal Corps gaining more men in the transfer than any other branch.

South American Flight

A tentative list of pilots of Army airplanes, for the contemplated flight to South America, was announced Sept. 4. The list includes 10 Air Corps officers, headed by Maj. Herbert A. Dargue, office of the chief of the Air Corps, who would be in charge of the flight.

The department explained, in connection with its announcement, that further details of the contemplated flight are contingent upon arrangements now being made by the Department of State with the South American countries over which the planes would fly.

The ten pilots, tentatively chosen, in the proposed flight, are as follows:

Maj. Herbert A. Dargue, Office, Chief of Air Service (In charge); Capt. Arthur B. McDaniel, Kelly Field; Capt. Ira C. Eaker, Office, Chief of Air Corps; Capt. Clinton F. Woolsey, McCook Field; 1st Lieut. Bernard S. Thompson, Phillips Field; 1st Lieut. Leonard D. Weddington, Fort Sam Houston; 1st Lieut. Charles McK. Robinson, Fort Crockett; 1st Lieut. Muir S. Fairchild, Langley Field; 1st Lieut. Ennis C. Whitehead, Wright Field; 1st Lieut. John W. Benton, Crissy Field.

Navigating by Instruments Only

Recently Lieutenants Schoeffel, Curtin and Sheehan of the Bureau of Aeronautics made a navigation flight to New York, Curtin navigating. The Bureau of Standards type sextant was used for celestial observations, the navigrapn and an experimental post drift angle meter for drift sights, and the Pioneer type 301 inductor compass and modified NS-II magnetic compass for direction. The navigator was equipped only with a position plotting sheet, without geography, for a chart.

In spite of very unfavorable weather conditions and several radial changes of course, the objective (Ft. George) was

missed by only eight miles in direction and six minutes in time.

It was intended to turn on time at New York and return to Washington without stopping. Fog, however, required putting into Miller Field on Staten Island. The return trip was made the following day. The weather conditions as far as Philadelphia were again very bad and radial changes of course were gain made. Bolling Field was missed by two miles in direction and eight minutes in time.

It appears that courses can be steered very accurately in direction, but that a universal tendency seems to exist to underestimate the time necessary to arrive at the objective.

It is to be emphasized that this flight, although made over land, was carried out in the same manner as an oversea flight, as the navigator had no knowledge of the positions flown over except the latitude and longitude of the points of departure and destination.

Naval Seaplane Saves Life

A report received at the Department of the Navy, from Hampton Roads, Va., states that a naval seaplane recently was instrumental in saving a life through transporting a lockjaw patient to Norfolk from Hatteras Village, a point remote from rapid transportation facilities.

A request was made of the Hampton Roads Air Station for assistance in giving medical aid to a woman stricken with lockjaw. Lieut. T. N. Thweatt, U.S.N., stationed at Hampton Roads, took off and picked up the patient, who was awaiting his arrival in a boat at the village. Upon arrival at Norfolk, she was placed in an ambulance and transferred to a hospital.

Army Air Orders

First Lieut. Martinus Stenseth, Air Corps, relieved from assignment and duty with 88th Div., Minneapolis, and further detail with the Organ. Res., 7th Corps Area, and will proceed to Langley Field, and report to the com., A. Corps Tact. Sch., for instruction.

First Lieut. Horace S. Kenyon, Jr., Air Corps, relieved from detail to the Organ. Res., 9th Corps Area, and assignment to non-divisional group, and duty Clover Field, Santa Monica, and will proceed to San Francisco, sailing on transport Dec. 8 for Hawaiian Dept.

Private John L. Franks, 7th Obs. Squad., Air Corps, transferred to 1st Obher. Squad., Air Corps, and will proceed to Mitchel Field.

Capt. Raymond E. O'Neill, Air Corps, relieved from assignment and duty Air Corps Adv. Fly. Sch., Kelly Field, and will report to com. off. Kelly Field for duty.

First Lieut. John M. Davis, Air Corps, Langley Field, detailed for duty with Organ. Res. of 7th Corps Area, assigned to duty with the 88th Div., and will proceed to Minneapolis.

Following officers of the Air Corps, relieved from assignment and duty at the Air Corps Adv. Fly. Sch., Kelly Field, and will proceed to station specified: First Lieuts. Benedict A. Coyle, Kelly Field, Angier H. Foster, Fort Crockett, Clyde A. Kuntz, Kelly Field, Arthur L. McCullough, Mitchel Field, Sec. Lieuts. William E. Baker, Fort Crockett, Earl W. Barnes, Fort Crockett, James M. Bevans, Marshall Field, Clifford P. Bradley, Selfridge Field, Walter G. Bryte, Jr., Crissy Field, Charles H. Caldwell, Mitchel Field, Joseph C. A. Denniston, Maxwell Field, John H. Dulligan, Aberdeen, Md., Robert W. Harper, Fort Crockett, Edgar T. Noyes, Fort Crockett, William G. Plummer, Selfridge Field, Russel E. Randall, Marshall Field, Patrick W. Timberlake, Langley Field.

Major Barton K. Yount, Air Corps, assistant military attaché, American Emb.

Sec. Lieut. Fowler Wesley Barker, Air Corps Res., Washington, to active duty Langley Filed, reverting to inactive status Sept. 15.

First Lieut. Paul C. Wilkins, Air Corps, upon completion of tour of foreign service, to Crissy Field.

Spec. Orders 198, directing Sec. Lieut. Elmer Florence Knight, Air Corps Res., to report to the com. Air Corps Prim. Fly. Sch., Brooks Field, for duty, amended to direct Lieut. Knight to report for the purpose of pursuing a six months' course of instruction for res. off.

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PUBLISHER'S NEWS LETTER

Every traveler who returns from the other side of the Atlantic and who has flown over an appreciable number of the air lines of Europe is asked two questions by nearly everyone he meets. One is as to which is the most successful air line and the other is which is the best commercial airplane. And the wise air tourist gives a very general answer that means little or nothing. The reason for this evasion must be obvious. Taking the routes first. If anyone were to use the traffic carried as a basis for success, he might create a wrong impression, as the fares would then have to be considered as a factor that enters into successful operation. If the number of lines operated are considered as an indication of success, again the element of service renedered comes into play and it becomes difficult to make a fair comparison. Regularity might be regarded as one of the essential qualities of any successful air line, but this, without traffic, will not bring the much sought after result. Usually the financial return and its relation to the subsidy given is looked to for an answer, but this important figure is most jealously guarded so that the investigator, when he comes to estimate in any definite and concrete manner the relative success of air operations abroad, is little wiser after his searching than he was before. There are no convenient congressional investigation committees that print, for the information of the whole world, the inside confidential and secret facts of air development, as there are here.

* * * *

When it comes to any relative appraisal of the airplanes that are used on European air lines, the difficulty becomes even more acute. Each route has its own peculiar requirements of traffic and speed and safety. All these require a specialized type of airplane and when a generalization is asked as to which is the most efficient and best qualified for its work, any broad statement would be obviously unfair, if not qualified by including some of the above factors. Broadly, there appears to be little to choose between the monoplane and the biplane for air transport work, although the monoplane type seems to be in the ascendant. The excellent visibility that is possible with a monoplane has given it a great popularity, although the English and the French companies have been slow even to consider changing from the biplane. The all-metal air transport also has its strong advocates, but the cost has held back the development. Germany has the lead in this respect and appears to be convinced that this is the only practicable material for air transport lines. One thing may be observed which may have a bearing on the future. There is a very general tendency for all countries in Europe to use all-metal aircraft for military purposes, the reason for this being that the upkeep is cheaper, and the life is longer and safety is more assured. By the same reasoning these qualities applied to air transport should bring the same conclusion. The public is entitled to every safeguard that can be devised just as much as are the military fliers.

* * * *

The controversy as to the relative merits of the three, two and the single-engined plane goes on as merrily as ever. Generally speaking, the three-engined and two-engined plane are used over the more dangerous routes, when they are available. The Channel is flown by all of the types. It is significant to note that the Dutch K.L.M. airline that flies the difficult Channel route as well as the Amsterdam-Copenhagen service, which is so much of the time over water, has standardized on single-engined planes. The cost may have been one of the determining considerations but, nevertheless, this policy has been adopted by the line that has one of the smallest subsidies in Europe. The cost of operation of these large planes is also a great deterrent in this direction. The Latecoere line that has so successfully flown the very difficult Toulouse-Casablanca route has until this year used single-engined equipment, but soon will change to two-engined airplanes of its own manufacture. The C.I.D.N.A. which operates from Paris to Warsaw and Constantinople has used single-engined Bleriot Spads, but is now considering a change to multi-engined craft The Junkers three-engined all-metal airplanes are to be found on all of the more important German airlines. The English are using three-engined Handley Pages and Armstrong-Siddeleys and will fly three-engined DeHavilands over the Cairo-Karachi line. The Jabiru, with three-engines is also coming to the fore in the operation of some of the French services as well as lines allied with them. It is, therefore, evident that no hard and fast rule can be made as to the trend. The believers in the single-engined machine, and these include a very large percentage of the pilots, maintain that safety has no relation to the number of engines and that the figures will show that multi-engined planes are no more reliable than the old standard type. The two-engined advocates also have their arguments and the continued use of these types has fortified their position. The three-engines airplane manufacturers have the argument all their own way at present, as this development has not been used, except by the Luft Hansa, for any length of time. So, when any one wants to know which is the best line and which is the best plane, he may ponder on the above and take his pick.—L.D.G.

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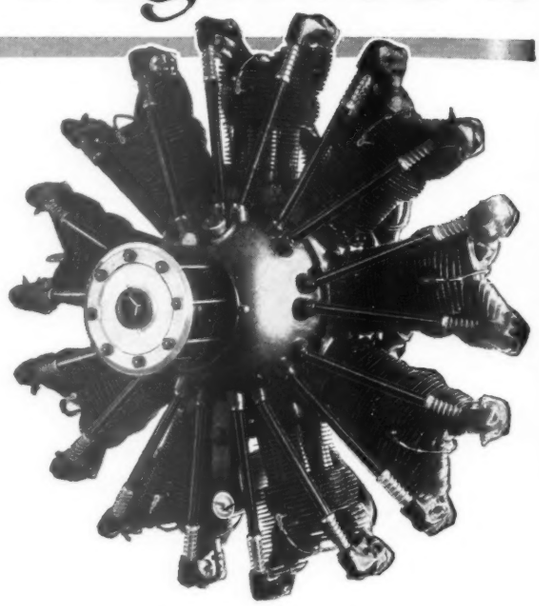

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